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Coding Information

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Title: Espar Heater Diagnostic Guide

Applies To: Airtronic D2 Heater, Hydronic D5 Heater, Feature code 16UZL, 16VTV

CHANGE LOG

10/27/2014 - Article updated to step based diagnostic form
 11/18/2013- Article Updated with manufacture diagnostics
 11/4/2011 - Article Created

DESCRIPTION

The Espar diesel-fired heating system provides heat for the cab area without the use of the vehicle engine. When the Espar system is on, the front cab blower will also operate to prevent condensation buildup. The heater may have a short run time if the the vehicle has sat for an extended period of time with battery low state of charge. This document will guide the user through pre season maintenance, diagnosing, and repairing both Espar Airtronic & Hydronic systems on Navistar equipped vehicles. You may refer to the manufactures website for additional literature as indicated in diagnostic steps below.

Pre Season Maintenance

[Airtronic](#)
[Hydronic](#)

SYMPTOMS

Diagnostic Trouble Codes:

DTC/Light	Description
N/A	N/A

Customer Observations or Concerns:

- Performance-
 - No heat in cab
 - Espar not working all the time
 - Espar intermittent operation
 - Espar stops working after a period of time
- Noise-
 - Abnormal Noise

SPECIAL TOOLS / SOFTWARE

Tool Description	Tool Number	Comments
EDiTH Diagnostic Software	PDF	Manufacturer Tool
ISO Adaptor	PDF	Manufacturer Tool
Airtronic Y Adaptor	PDF	Manufacturer Tool
Hydronic Y Adaptor	PDF	Manufacturer Tool

SERVICE PARTS INFORMATION

Kit Description	Part Number
Bergstrom Cold Side Service Parts	PDF
Espar Hot Side Service Parts	PDF

Circuit Diagrams

Diagram	Link
Airtronic with key off operation	PDF
Airtronic with key on or in accessory position	PDF
Hydronic Maxxpower no-idle	PDF
Condensation Module	PDF

DIAGNOSTIC STEP(s)

Step	Action	Decision
1	Operational Checks: Review operational cards to determine if Espar control equipment is operating as intended Operation Cards Multi Max Digi Max (under voltage shutdown must be set to 11.4v) Does the heater controller and unit operate as the manufacture intended?	Yes. Educate operator with manufacture operating intentions
		No Step 2

Step	Action	Decision
2	Diagnostics: Review manufacture provided troubleshooting manuals posted below to diagnose and repair controller or heater as required (additional resources may be found at Espar.com)	Yes. Educate operator with manufactures operating intentions
		No 1. Visit Espar.com

[Hydronic Heater
Multi Max Controller](#)

[Airtronic Heater
Digi Max Controller](#)

[Airtronic Flame Tube Carbon Removal
Diagnostic Overview](#)

2. Click Download Center
3. Click Technical Manuals
4. Create free username and password
5. Follow additional technical manuals

Does the controller and heater operate as manufacture intended?

REPAIR STEPS

The direction in which the hydronic heater air intake is pointed may accelerate wear on the hydronic combustion air blower. The entire Espar heater assembly **DOES NOT** need to be replaced if the combustion air blower is failed. When Espar hydronic system is serviced, refer to figures 1 & 2 below. If the air intake is already in the 45 degree position, the procedure does not need to be followed. If the air intake is not in the 45 degree position, follow the 2 step procedure as indicated below.

PROCEDURE:



Figure 1: Hydronic Air Induction Pipe

1. Locate Air Induction Pipe (Figure 1)



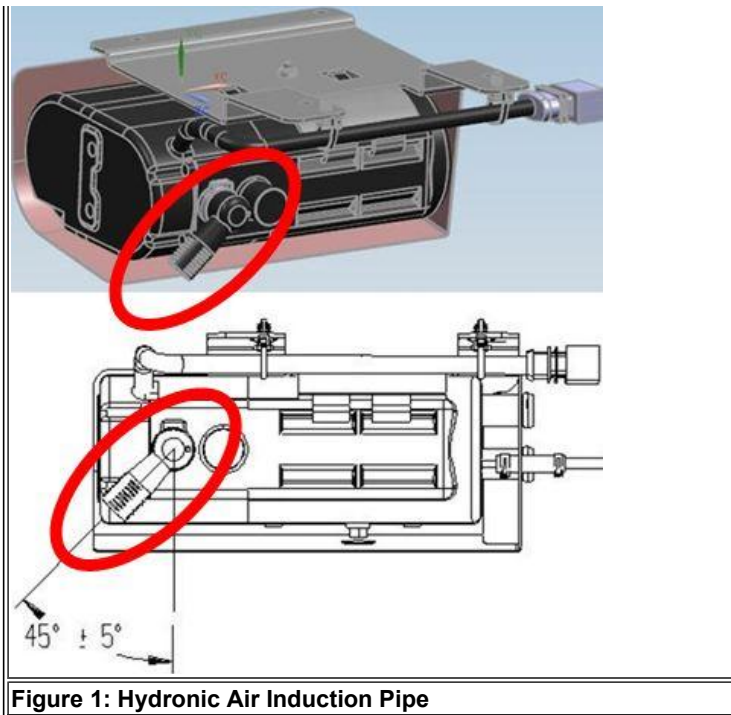


Figure 1: Hydronic Air Induction Pipe

2. Rotate Air Induction Pipe clockwise 45 degrees (Figure 2)

WARRANTY INFORMATION

Warranty Claim Coding:

Group:	19030- Auxiliary No-Idle HVAC
Noun:	633- Auxiliary Fuel-Fired Heater

Standard Repair Times:

Description	Chassis	Engine	SRT	Hours
Hydronic Air Intake Rotation	Prostar	All	T-Time	0.1
Airtronic/Hydronic Diagnostics	Prostar	All	R19-8013A	0.5
Combustion Air Blower	Prostar	All	R19-7633A-20	0.5
ESPAR Coolant Heater (Replace)	Prostar	All	R19-7633A	1.0
Coolant Pump	Prostar	All	R19-7633A-21	0.3
Overheat Sensor	Prostar	All	R19-7633A-22	0.5
Flame Sensor	Prostar	All	R19-7633A-23	0.3
Glow Pin	Prostar	All	R19-7633A-24	0.3
Fuel Metering Pump	Prostar	All	R19-7633A-25	0.4

Burner Flame Tube	Prostar	All	R19-7633A-26	0.5
O-Ring Coolant Pump	Prostar	All	R19-7633A-27	0.3
O-Ring Sensor	Prostar	All	R19-7633A-28	0.3
O-Ring Heat Exchanger	Prostar	All	R19-7633A-29	0.5
Seal Kit	Prostar	All	R19-7633A-30	0.5
ECU ESPAR Heater	Prostar	All	R19-7633A-31	0.4

Special Requirements:
None

OTHER RESOURCES

[Master Service Information Site](#)

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