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Coding Information

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Title: Endurant Airline Plumbing Retrofit

Applies To: All Endurant equipped vehicles built before 11/1/2023

Change Log

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

10/12/2023 - Initial Article Release.

Description

This document will walk the user through the retrofit process for vehicles built with Endurant transmission to allow shift/gear engagement at 95psi instead of 105psi.

This should only be completed if the unit is Eaton Endurant-equipped, built before 11/1/2023, and has the symptom of shift/gear engagement being only allowed at 105psi or greater.

Symptoms

Diagnostic Trouble Codes & Dashboard Indicator Lights:

DTC/Light	Description
System Air Pressure Low message in cluster	

Customer Observations or Concerns:

- System Air Pressure Low message on the cluster indicating that gear engagement is not allowed
- Not allowing gear engagement until 105psi

Special Tools / Software

Tool Description	Tool Number	Comments	Instructions
EST with Service Ranger 4 installed	N/A		Update TCM software level to the latest available

Service Parts Information

Kit Description	Part Number	Quantity Required	Notes
Air Tank Fitting (90 ELBOW M22 X 3/8" PTC)	6131502C1	1	For secondary air tank port
Nylon, 3/8" black	417199C3	As Required	The length depends on vehicle configuration. Usually 10 feet
Plug, (1/4-18 MPT Recessed Brass)	444693	1	For AD-IS air drier configuration
Coupling (Connect, 3/8" PTC X 3/8" PTC)	2017507C1	1	For AD-HF air drier configuration

Diagnostic Steps

Step	Action	Decision
1	DIAGNOSTIC: Verify at what PSI the gear engagement allowed.	Yes: End of diagnostics, the vehicle is properly set up to utilize allowance of gear engagement at lower pressure.
	YES/NO QUESTION? Is gear engagement allowed at 95PSI primary air pressure?	No: Go to Step 2


Step	Action	Decision
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2	DIAGNOSTIC: Verify vehicle build date.	Yes: Go to Repair Steps - Step 1
	YES/NO QUESTION? Is the vehicle built on 4/13/2023 or prior?	No: Go to Repair Steps - Step 12

Repair Step(s)

Follow the below steps to allow gear engagement at 95psi instead of 105psi.

PROCEDURE:

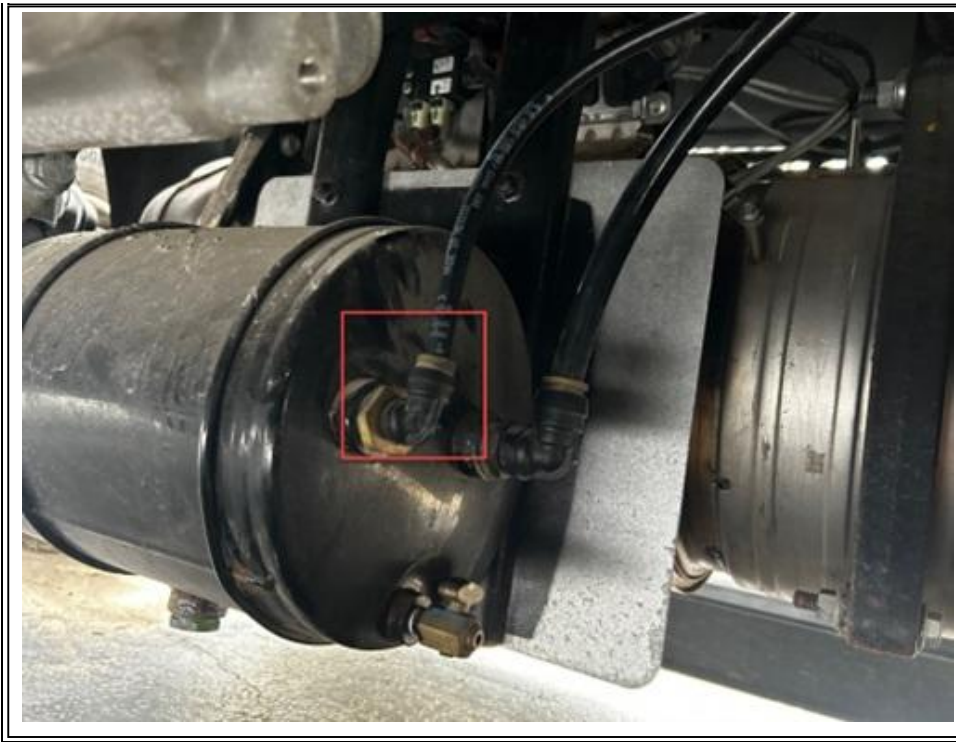
 WARNING:	
To prevent personal injury and/or death, always wear safe eye protection when performing vehicle maintenance.	

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

- 1.) Bring the vehicle into the shop and park on the flat surface.
- 2.) Set the parking brake and shift the transmission to neutral.
- 3.) Turn the vehicle ignition to the Key OFF position.
- 4.) Install wheel chocks.
- 5.) Discharge primary and secondary air tanks of all air pressure.
- 6.) From underneath the vehicle, discharge air pressure from the smaller auxiliary air tank using the drain valve - once fully drained, the valve must be closed again.
- 7.) Disconnect the black 3/8" airline from the auxiliary air tank and continue to remove it completely from the vehicle (Refer to Figure 1).

NOTE: This line connects to the air drier.

Figure 1



8A.) (For AD-IS air drier) Remove airline push to connect fitting from the air drier that previously had the auxiliary air line connected to and install 3/8" Plug PN 444693 (Refer to Figure 2 below). Proceed to step 9.

Figure 2



8B.) (For AD-HF air drier) Remove the tee manifold that previously had the auxiliary air line connected and install push to connect coupling PN 2017507C1 (Refer to Figure 3 below). Proceed to step 9.

9.) Remove a brass plug from the secondary air tank and install 90-degree elbow fitting PN 6131502C1 (Refer to Figure 3 below).

Figure 3



10.) Install a new black 3/8" airline at the secondary air tank fitting that was installed in Step 9, route along the frame, and cross member as needed to the auxiliary air tank. Install the line into the open fitting where the line was removed from in Step 7.

11.) Use the existing zip ties or new ones as needed to secure the new airline against the frame so it remains clear of hot or rotating components and free of chafing or any sharp edges (Refer to Figures 4 and 5).

Figure 4

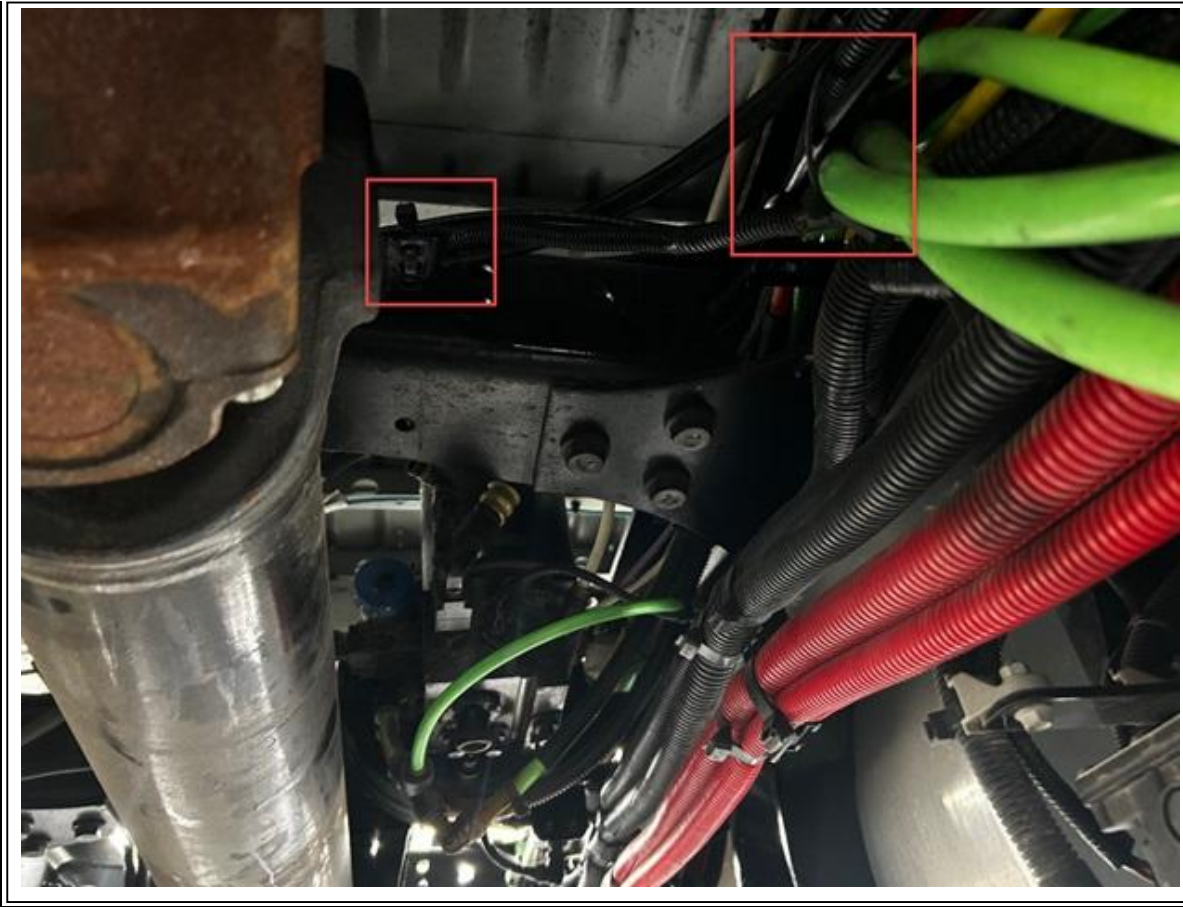
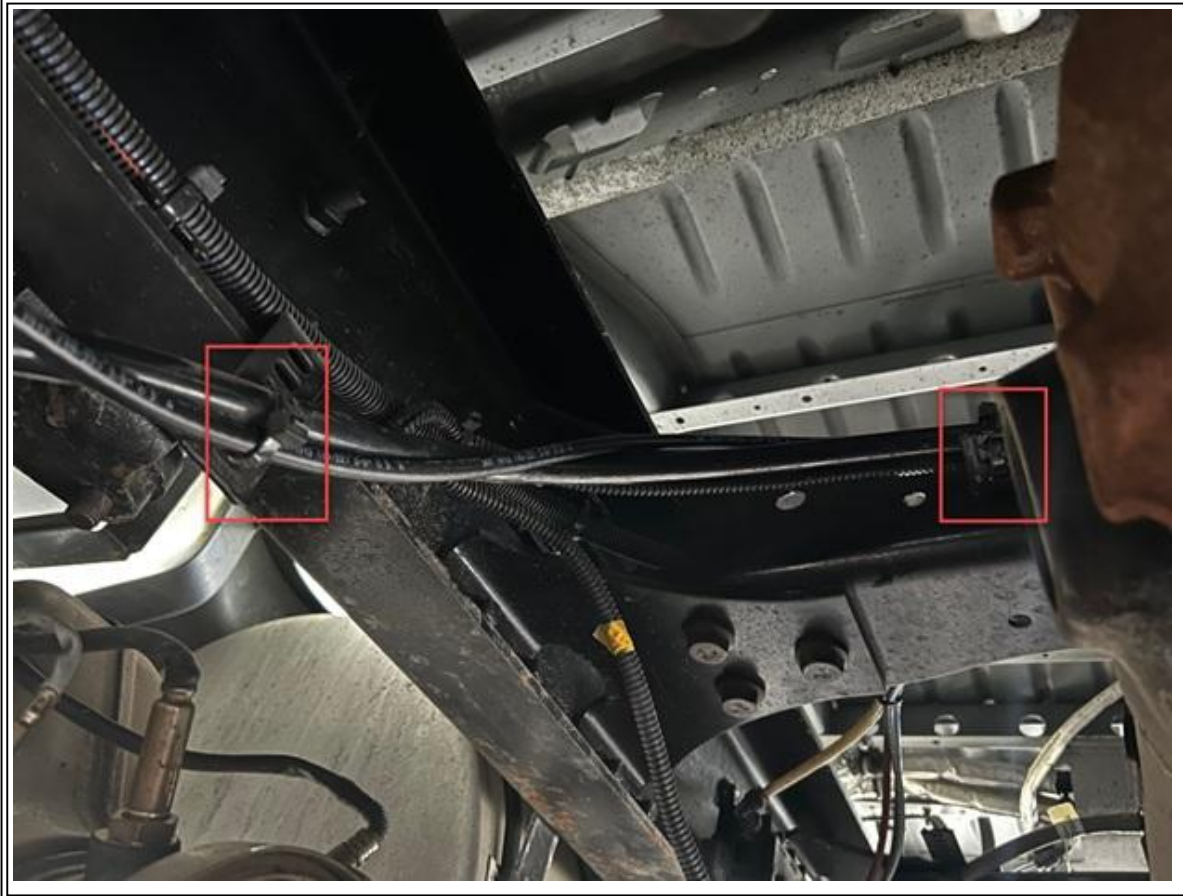


Figure 5



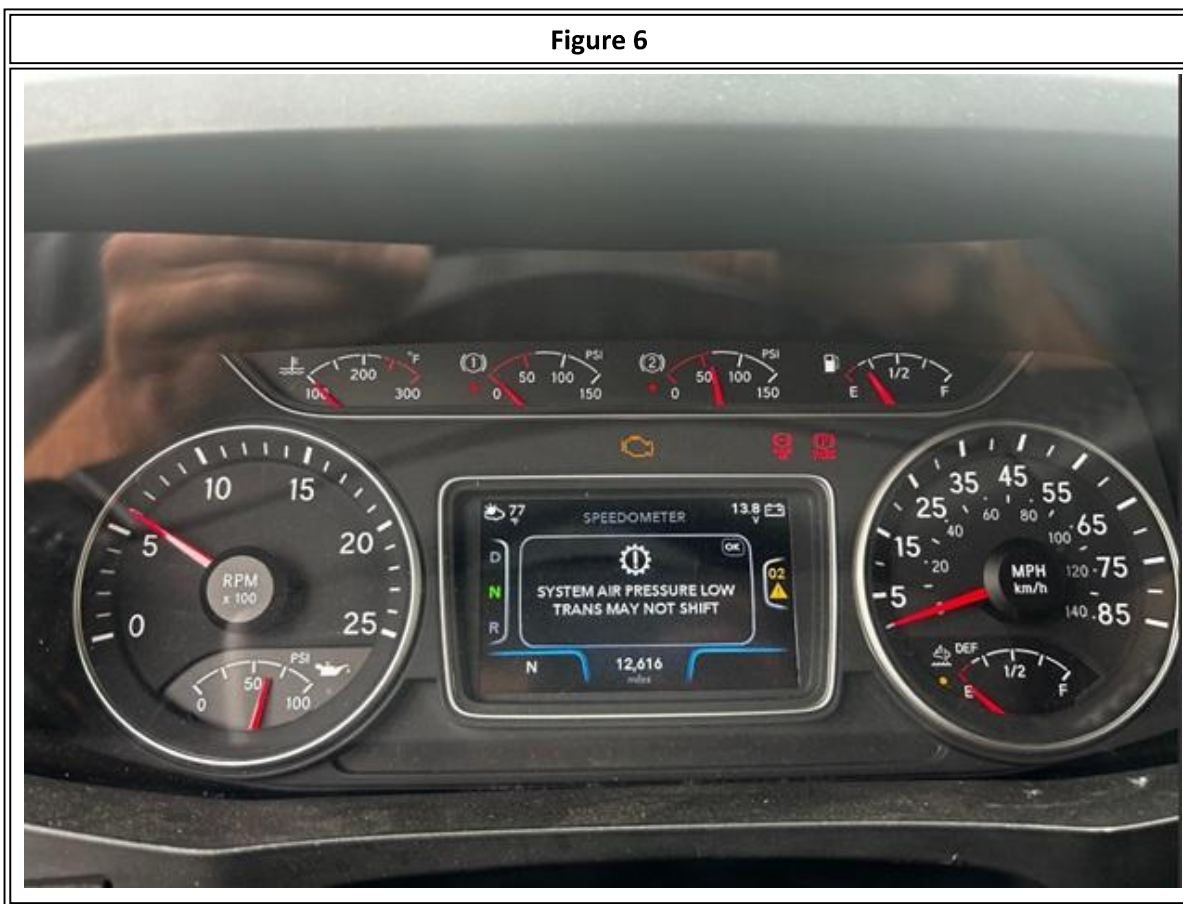
12.) Using an EST with Service Ranger 4, perform TECU software update.

NOTE: The required software should match the table below. For more calibration details, please refer to Eaton bulletin TAIB-0876.

TECU Version	Software version needed
A4	5516062 (or greater)
A5	5516374 (or greater)

13.) Once the TECU version is updated, a relearn procedure needs to be performed. Proceed to Step 14.

14.) With empty air tanks, start the engine. The primary tank air drain needs to be held open while the secondary air tank refills past 100psi. Once the pressure is reached, the primary air tank drain can be closed and the tank can be allowed to fill (Refer to Figure 6).



15.) Procedure complete. Verify the gear engagement is allowed at 95psi

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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Feedback Information

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Staff ID	Client ID	Comments	Created Date
	DY35478	You received the following feedback From: DY35478 - Steve Ziegler Email Address: steveziegler@selkinginternational.com Job Classification: SA003, Salesperson - New Truck Dealer: SELKING INTERNATIONAL Feedback: Why does the title have vehicle built before date 11/1/23 and step 2 has 4/13/23?	10/17/2023 1:53:27 PM