

Air recirculation flap malfunctions with fault code B10A207, B105C07, B109F07 and / or B113600 in ACC control units

Topic number	LI83.10-N-071291
Version	2
Function group	83.10 Ventilation
Date	11-20-2020
Validity	Model 907
Reason for change	Adding Information
Reason for block	

Complaint:

Various customer concerns of Climate Control system operating inadequately.

Cause:

During manufacturing process of heater case, stepper motors potentially installed in binding position onto linkage that may cause mechanical fault during actuation in unfavorable environmental conditions.

Remedy:

Remedy 1

1. Connect XENTRY diagnosis and attempt normalization of the flap actuator motors.
 - If normalization is unsuccessful, continue to Remedy 2.
 - If normalization is successful, continue to Remedy 3

Remedy 2

1. In control unit view N22/1, actuate each stepper motors with Xentry actuation
2. Locate actuator that is unresponsive to input
 - Pin point root cause without disassembly
3. Follow WIS to gain access to the unresponsive actuator
 1. Recirculation flap (AR83.10-D-2041TS)
 2. Blend air flap (AR83.10-D-2026TS)
 3. Distribution flap (AR83.10-D-2040TS)
4. "Disconnect electrical connector for stepper motor" - This will advertently perform a 'Hard Reset' on the motors
5. Remove diagnosed faulty stepper motor
6. Inspect linkage by hand for binding or harshness of movement (Replace if necessary)
7. Reinstall stepper motors (Complete torque of motors to case at 1.8Nm)
 - *** Follow correct torque to prevent new cause of binding of actuator motors***
8. Attempt to teach in Stepper motors using Xentry
 - If successful proceed to remedy 3
 - If unsuccessful Open PTSS case

Remedy 3

1. Update software for N10 - SAM control unit

XENTRY TIPS

Software levels:

- N10 (SAM): 907 902 44 04
- N22/1 (AAC): 907 902 45 04

Attachments	
File	Description
remedy 2 motor location.jpg	Air recirculation flap actuator motor
remedy 2 motor removal.jpg	Air recirculation flap actuator motor removal
remedy 2 linkage orientation.jpg	Linkage orientation

Symptoms
Body / Air conditioning / Heater / Malfunction, air distribution

Control unit/fault code		
Control unit	Fault code	Fault text
N22/1 - Air conditioning (AAC) (HVAC177)	B105C07	The actuator motor for the air recirculation flap has a malfunction. There is a mechanical fault. (HVAC_F907)
N22/1 - Air conditioning (AAC) (HVAC177)	B113600	The measurement run for actuator motors for air flaps has a malfunction. _ (HVAC_F907)
N22/1 - Air conditioning (AAC) (HVAC177)	B10A207	The actuator motor for the left blend air flap has a malfunction. There is a mechanical fault. (HVAC_F907)
N22/1 - Air conditioning (AAC) (HVAC177)	B109F07	The actuator motor for air distribution flap "Defroster vent/center air vent/footwell vent" has a malfunction. There is a mechanical fault. (HVAC_F907)

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note
54-0650	ON-BOARD POWER SUPPLY VOLTAGE MAINTAIN (WHEN CHECKING/TESTING AND TROUBLESHOOTING)	0.1		
54-1011	PERFORM QUICKTEST	0.2		
83-3117	PERFORM NORMALIZATION OF ACTUATOR MOTORS ON HEATING/VENTILATION/AC HOUSING	0.2	80460 73	
83-3139	FRESH AIR/RECIRCULATED AIR FLAP ACTUATOR MOTOR REMOVE AND REINSTALL WITH LINKAGE CORRECTION	0.2		Only claim when performing remedy 2
83-3151	REPLACE AIR DISTRIBUTION FLAP ACTUATOR	0.2		Only claim when performing remedy 2
83-3156	REPLACE ACTUATOR MOTOR OR AIR MIXING FLAP	0.2		Only claim when performing remedy 2

XENTRY TIPS

WIS-References			
Document number	Title	Note	Allocation
AR83.10-D-2041TS	Remove/install fresh air/re-circulated air flap actuator motor		Remedy
AR83.10-D-2026TS	Remove/install blend air flap actuator motor		Remedy
AR83.10-D-2040TS	Remove/install air distribution flap actuator motor		Remedy

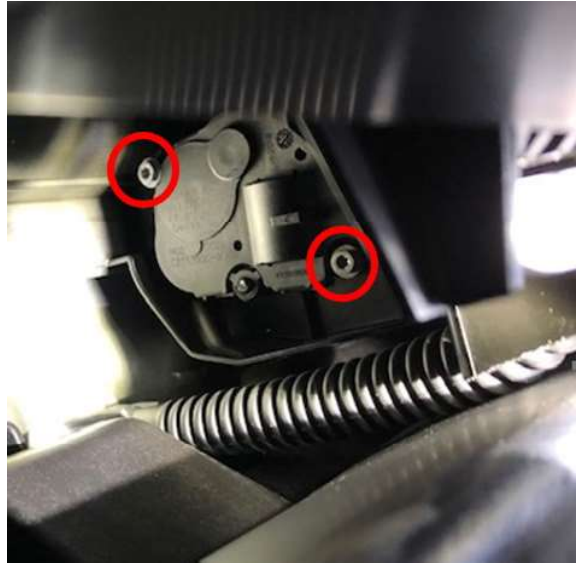
Validity		
Vehicle	Engine	Transmission
Sprinter 907	*	*

Attachments
remedy 2 motor location.
jpg:

A photograph showing the interior of a vehicle, specifically the area above the dashboard. A red circle highlights a small, rectangular component, which is the air flap actuator motor. The component is mounted on a metal bracket. Below the motor, there is a textured, metallic surface with two circular vents.

XENTRY TIPS

remedy 2 motor removal.
jpg:



remedy 2 linkage orienta-
tion.jpg:

