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Case Number: S2023000012

Release Date: 02/24/2020

Symptom/Vehicle Issue: Wind Whistle Noise From Glove Box Area Above 35 MPH

Discussion: When putting the climate control system in Recirculation Mode, some vehicles may exhibit a high pitched whistle heard behind the glove box at speeds ranging from 35 mph+

Test:

Bring Vehicle up to the speed until the wind whistle noise is audible.
Cycle the HVAC recirculation door (1) and note any changes.

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If the whistle noise changes when cycling the recirculation door, please follow the repair procedure detailed below.

Repair Procedure:
Removal of 1mm “hard stop” rib behind inlet door

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Tools Required:

* Flashlight
* Phillips Screw Driver
* T20 TorxBit Screw Driver
* Long Cylindrical File
* wiTECH2

1. Remove Glove Box
2. Remove Blower Motor:

- Disconnect Wire Harness

- Using a Philips head screw driver, remove the foot-well light from the bottom of the HVAC (one screw)

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- Using a T20 TorxBit screw driver while holding the bottom of the blower, remove the three blower mounting screws. Carefully lower the blower out of the HVAC and set aside

3. Remove Air Filter

Connect wiTECH2 Diagnostic Scan Tool:

4. Push the recirc button on the hvac control head.

5. From the ECU Topology Screen select HVAC. Once in HVAC, select “Data” tab.

6. Once under data tab, scroll to Recirculation Actuator Door Feedback Voltage. Take note of voltage:

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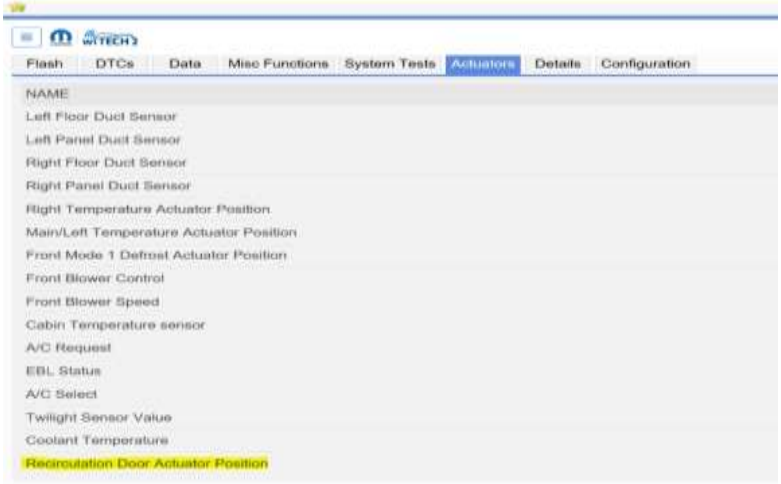
Main/Left Temperature Actuator Actual Position Driver	48.6		Senso
Main/Left Temperature Door Feedback Voltage	2.45	Volts	Senso
Front Mode 1 Defrost Actuator Target Position	27.8		Senso
Front Mode 1 Defrost Actuator Actual Position	26.7		Senso
Front Mode 1 Defrost Actuator Door Feedback Voltage	1.55	Volts	Senso
Recirculation Actuator Target Position	3.9		Senso
Recirculation Actuator Actual Position	9.8		Senso
Recirculation Actuator Door Feedback Voltage	1.61	Volts	Senso
Panel Duct Left Temperature Sensor	73.4	°F	Senso
Panel Duct Right Temperature Sensor	73.4	°F	Senso
Floor Duct Left Temperature Sensor	71.6	°F	Senso
Floor Duct Right Temperature Sensor	73.4	°F	Senso

7. Select “Actuators” WiTECH tab. Then select Recirculation Door Actuator Position



This document does not authorize warranty repairs. This communication documents a record of past experiences. STAR Online does not provide any conclusions about what is wrong with the vehicle. Rather, it captures all previous cases known that appear to be similar or related to the vehicle symptom / condition. You are the expert, and you are responsible for deciding on the appropriate course of action.

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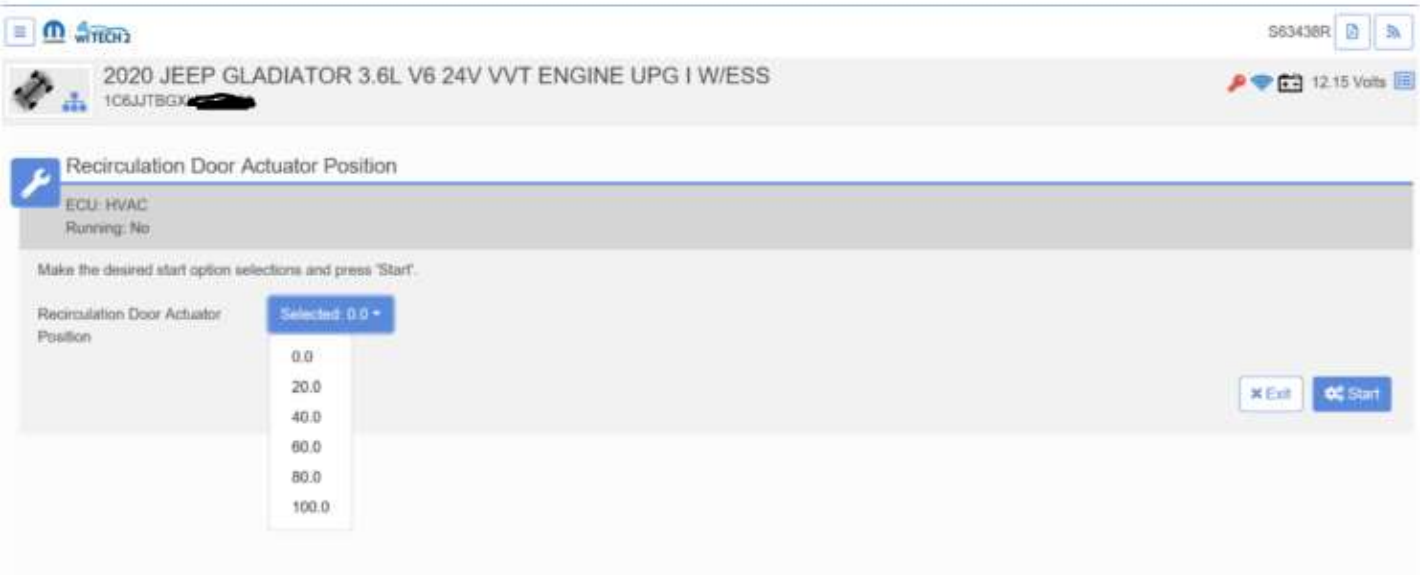
8. Set door to desired percentage (60.0). Select start to command door to 60%.



9. Go back to data tab, scroll to Recirculation Actuator Door Feedback Voltage, read new voltage. After repair is completed, voltage should change by ~0.01-0.02V from initial.

Main/Left Temperature Actuator Actual Position Driver	48.6		Sens
Main/Left Temperature Door Feedback Voltage	2.45	Volts	Sens
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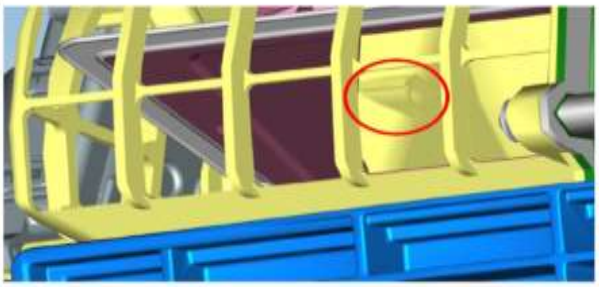
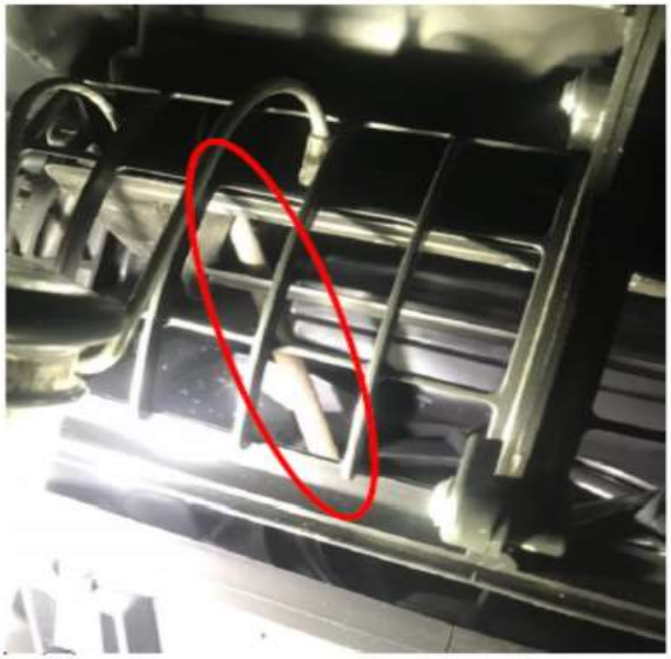
10. With the door at 60% travel, look behind the inlet door shaft on the left side of the recirc grill and you will see the door hard stop with a 1mm rib on the edge.





11. With the blower motor removed and entering in between the “pre-swirl” blades, remove the 1mm hard-stop rib using a long cylindrical file.

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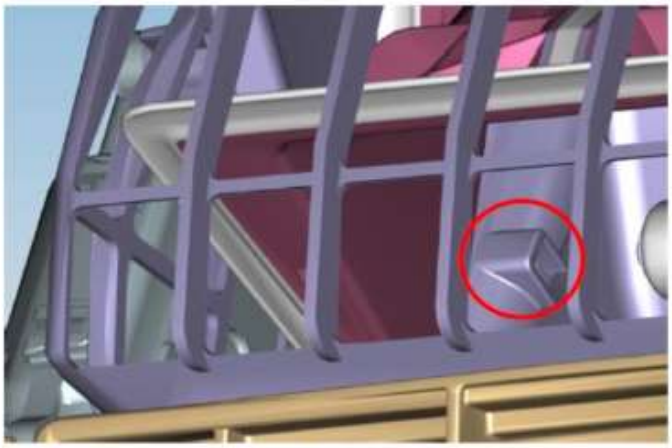
12. To verify that enough of the rib was removed, drive the inlet door back to recirculation mode. The feedback voltage should change by 0.01-0.02V compared to baseline voltage recorded initially as the door closes further.

Before



After

Verification:

Reassemble blower motor, foot well light, filter, and filter cover to the HVAC assembly

Reassemble glovebox to IP

If procedure was successful, the whistle heard in vehicle before will no longer occur at highway speeds

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