



TECHNICAL SERVICE BULLETIN

Lack Of Heat Or Cooling From The Cabin Vents - Temperature Door Or Door Actuator Binding/Inoperative - DTC B1081:07

21-2199
28 June 2021

This bulletin supersedes 21-2144. Reason for update: New Part/Procedure For Same Condition

Model:

| |
|------------------------|
| Ford |
| 2017-2021 F-Super Duty |
| 2015-2020 F-150 |

Summary

This article supersedes TSB 21-2144 to update the vehicle model years affected and the Parts List.

Issue: Some 2015-2020 F-150 and 2017-2021 F-Super Duty vehicles may exhibit a lack of heat or cooling from the cabin vents when the climate control settings are adjusted between hot and cold. This may be due to a stuck/binding temperature door within the climate control housing or a binding/inoperative temperature door actuator. Diagnostic trouble code (DTC) B1081:07 may be present in the front controls interface module (FCIM). To correct the condition, follow the Service Procedure steps to remove the climate control housing and replace the temperature door actuator(s) and/or lubricate the temperature blend door bearing surface.

Action: Follow the Service Procedure steps to correct the condition on vehicles that meet all of the following criteria:

- One of the following vehicles:
 - 2015-2020 F-150
 - 2017-2021 F-Super Duty
- Lack of heat or cooling from the cabin vents when the climate control settings are adjusted between hot and cold
- Only DTC B1081:07 stored in the FCIM

NOTE: Part quantity refers to the number of that service part number required, which may be different than the number of individual pieces. Service part numbers contain 1 piece unless otherwise stated. "As Needed" indicates the part is required but the number may vary or is not a whole number; parts can be billed out as non-whole numbers, including less than 1.

Parts

| Part Number | | Description | Quantity |
|---------------|---|--|--|
| FL3Z-19E616-B | Package Contains 1 Piece, 1 Piece Required For Manual Climate Control, 2 Pieces Required For Dual Automatic Climate Control | Temperature Door Actuator | 1 For Manual Climate Control, 2 For Dual Automatic Climate Control |
| FL3Z-19788-A | - | Lower Cam | 1 |
| FL3Z-19788-B | - | Upper Cam (Dual Auto Climate Control Only) | 1 |

| | | | |
|---------------|--|---|-----------|
| W714409-S439 | - | Steering Column Bolt | 1 |
| W717731-S451 | Package Contains 4 Pieces, 8 Pieces Required | Seat Bolts (2017-2021 Super Duty, F-150 Built On 20-Oct-2014 And Through 20-May-2015) | 2 |
| W718633-S451 | Package Contains 4 Pieces, 8 Pieces Required | Seat Bolts (F-150 Built On 20-May-2015 And Through 11-Oct-2020) | 2 |
| DR3Z-19B596-A | - | A/C O-ring Kit (2017-2019 Super Duty) | 1 |
| DL3Z-19B596-B | - | A/C O-ring Kit (2020-2021 Super Duty 7.3L And 6.2L) | 1 |
| HL3Z-19B596-A | - | A/C O-ring Kit (2018-2020 F-150, 2020-2021 F-Super Duty 6.7L) | 1 |
| 6E5Z-19E889-D | - | A/C O-ring Upper (2015-2017 F-150) | 1 |
| 6E5Z-19E889-E | - | A/C O-ring Lower (2015-2017 F-150) | 1 |
| 1531458 | Package Contains 1 Piece, 2 Pieces Required | Right Hand Upper and Lower Covers - Refer To The Parts Catalog For The VIN Specific Application | 2 |
| 1531459 | Package Contains 1 Piece, 2 Pieces Required | Left Hand Upper and Lower Covers - Refer To The Parts Catalog For The VIN Specific Application | 2 |
| XG-17 | - | Motorcraft® HVAC Duct Component Grease | As Needed |
| VC-13-G | - | Motorcraft® Yellow Concentrated Antifreeze/Coolant (All Markets Except Canada) | As Needed |
| CVC-13-G | - | Motorcraft® Yellow Concentrated Antifreeze/Coolant (Canada Only) | As Needed |
| VC-13DL-G | - | Motorcraft® Yellow Prediluted Antifreeze/Coolant (All Markets Except Canada) | As Needed |
| CVC-13DL-G | - | Motorcraft® Yellow Prediluted Antifreeze/Coolant (Canada Only) | As Needed |
| YN-12-D | - | Motorcraft® PAG Refrigerant Compressor Oil | As Needed |
| YN-35 | - | Motorcraft® R-1234yf Refrigerant PAG Oil | As Needed |
| YN-19 | - | Motorcraft® R-134a Refrigerant (All Markets Except Canada and Mexico) | As Needed |
| CYN-19-R | - | R-134a Refrigerant (Canada Only) | As Needed |
| MYN-19 | - | R-134a Refrigerant (Mexico Only) | As Needed |
| YN-33-A | - | | As Needed |

| | | | |
|----------------|---|--|-----------|
| | | R-1234yf Refrigerant (All Markets Except Canada) | |
| HS7Z-19B519-BA | - | R-1234yf Refrigerant (Canada Only) | As Needed |

Warranty Status: Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Service Part Warranty (SPW)/Special Service Part (SSP)/Extended Service Plan (ESP) coverage. Limits/policies/prior approvals are not altered by a TSB. NVLW/SPW/SSP/ESP coverage limits are determined by the identified causal part and verified using the OASIS part coverage tool.

Labor Times

| Description | Operation No. | Time |
|---|---------------|----------|
| 2015-2020 F-150, 2017-2021 F-Super Duty: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Pass) (Do Not Use With Any Other Labor Operation) | 212199A | 0.4 Hrs. |
| 2017-2021 F-Super Duty 40/20/40 Seat: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199B | 5.6 Hrs. |
| 2017-2021 F-Super Duty With Console: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199C | 5.7 Hrs. |
| 2017-2021 F-Super Duty 6.7L DI T 40/20/40 Seat: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199D | 5.3 Hrs. |
| 2017-2021 F-Super Duty 6.7L DI T With Console: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199E | 5.4 Hrs. |
| 2015-2020 F-150 40/40 Seat: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199F | 5.0 Hrs. |
| 2015-2020 F-150 Console: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199G | 5.5 Hrs. |
| 2015-2020 F-150 40/20/40: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199H | 5.2 Hrs. |
| 2015-2020 F-150 Floor Shift: Retrieve DTCs, Clean Actuator Cam And Replace Actuator Retest Function (Fail) Lubricate The Temperature Door Bearing Surfaces Includes Time To Remove And Install Climate Control Housing (Do Not Use With Any Other Labor Operation) | 212199J | 5.6 Hrs. |

Repair/Claim Coding

| | |
|-----------------|--------|
| Causal Part: | 19E616 |
| Condition Code: | 01 |

Service Procedure

- Using the appropriate Ford diagnostic scan tool, retrieve parameter identifications (PIDs) LEFT_BLEND# and RIGHT_BLEND# to monitor temperature door operation. The LEFT_BLEND# PID is for the driver side and the RIGHT_BLEND# is for the passenger side. Using the temperature knobs in the vehicle, change the temperature from LOW to HIGH and back to LOW and monitor the percentage for both PIDs. Do the PID percentages change from 0-1% up to 99-100%?

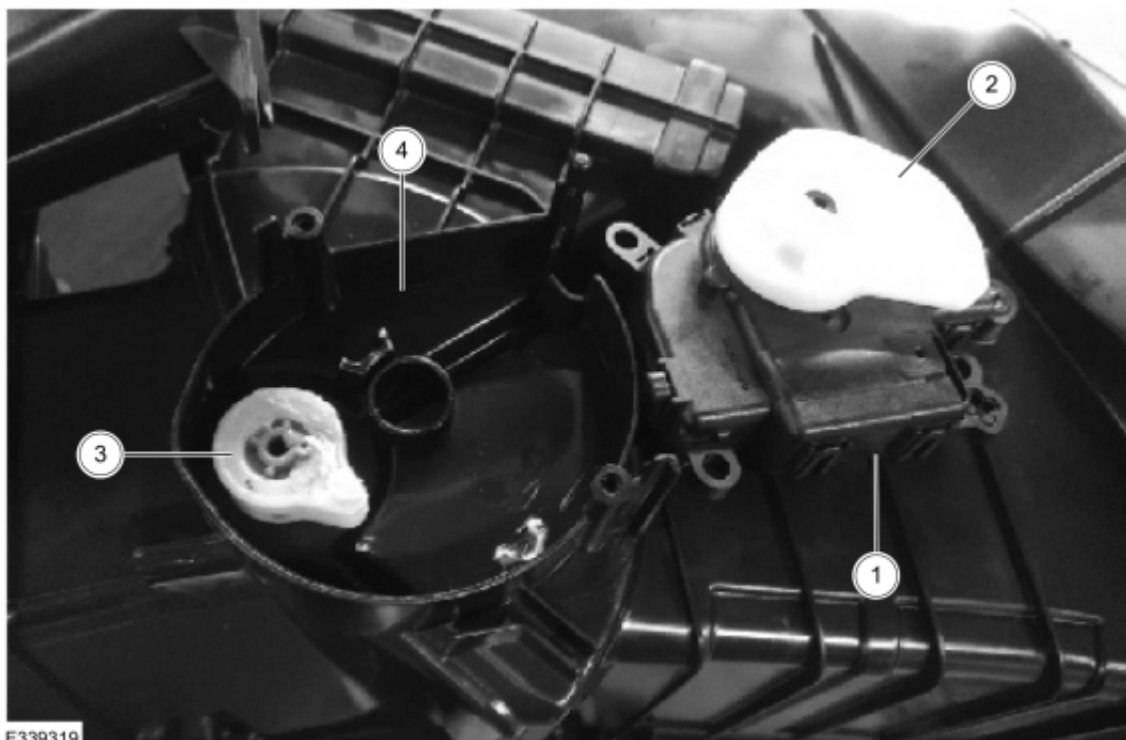
NOTE: For vehicles with manual climate control, both PIDs may not be present.

- Yes - this article does not apply, refer to Workshop Manual (WSM), Section 412-00.
 - No - proceed to Step 2.
- Proceed to the appropriate procedure based on the condition.
 - If either PID shows little to no percentage change, this is due to a driver side temperature door actuator concern; complete Procedure A.
 - If either PID shows a percentage change through most of the range, but not all, this is due to a binding cam follower or temperature blend door; complete Procedure B.

Procedure A: Remove The Driver Side Temperature Blend Door Actuator

- Gently wipe the driver side temperature blend door actuator, cam, and cam follower attached to the climate control housing blend door to remove any debris and existing lubricant.

NOTE: Do not remove the cam follower from the climate control housing blend door. It is critical to be gentle when cleaning the cam follower as damaging the temperature blend door shaft will require replacement of the climate control housing. (Figure 1)



E339319

| Item | Description |
|------|---------------------------|
| 1 | Temperature door actuator |
| 2 | Cam |

| | |
|---|-------------------------|
| 3 | Cam follower |
| 4 | Climate control housing |

2. Replace the driver side temperature door actuator and cam. Refer to WSM, Section 412-00. Lubricate the new cam and cam follower pin using Motorcraft® HVAC Duct Component Grease.
3. Reassemble per WSM. Test the temperature blend door operation. Does the system operate properly?
 - (1). Yes - repair is complete.
 - (2). No - proceed to Procedure B.

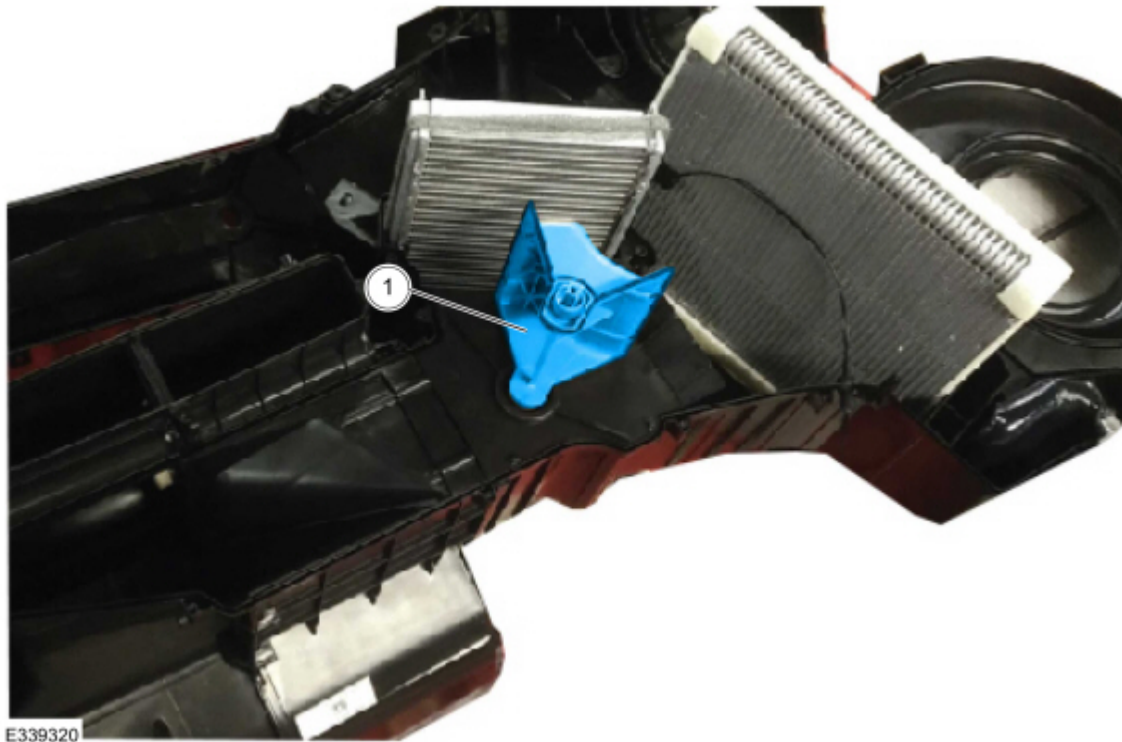
Procedure B: Lubricate The Temperature Blend Door Bearing Surfaces

1. Remove the climate control housing. Refer to WSM, Section 412-00.
2. Follow the evaporator removal procedure in WSM, Section 412-00 to separate the climate control housing for blend door lubrication. Only perform Steps 1-7 of the removal procedure. It is not necessary to remove the evaporator core.

NOTE: Remove the top and bottom (if equipped) temperature door actuators from the climate control housing to allow the temperature blend doors to be removed for lubrication.

3. Remove the temperature blend door. (Figures 2-4)

Figure 2



| Item | Description |
|------|---------------------------------|
| 1 | Temperature blend door assembly |

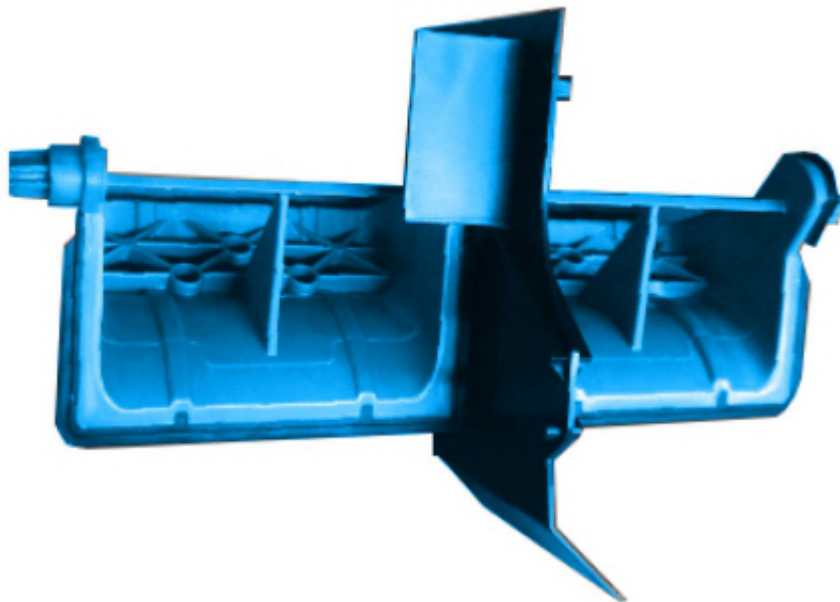
Figure 3



E339321

| Item | Description |
|------|--|
| 1 | Temperature blend door assembly removed from climate control housing |

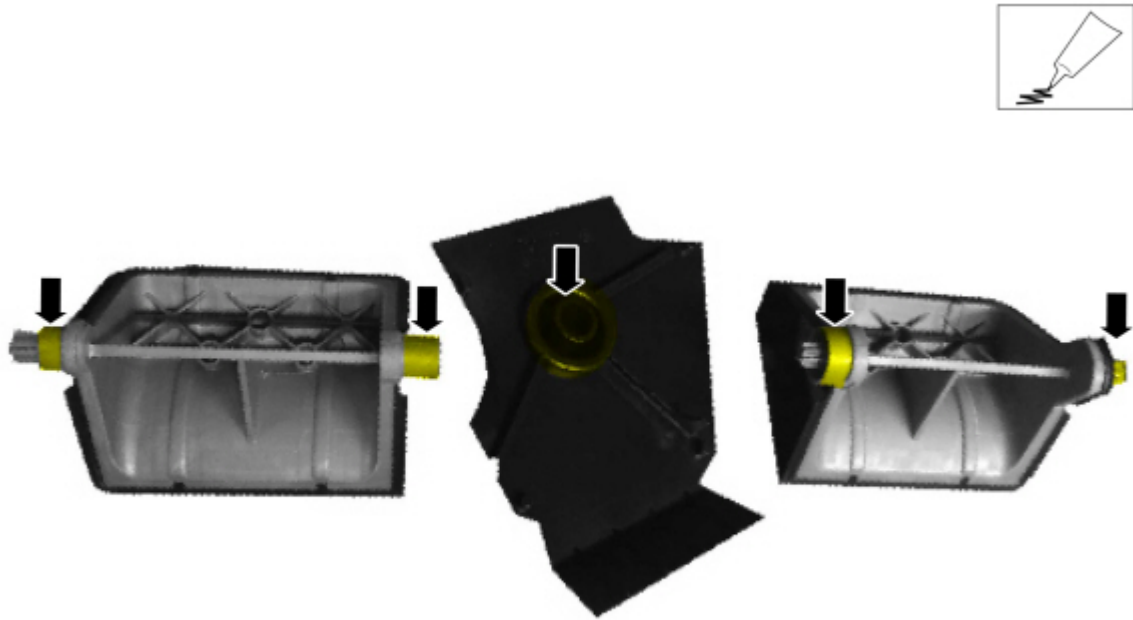
Figure 4 - Temperature blend door assembly



E339322

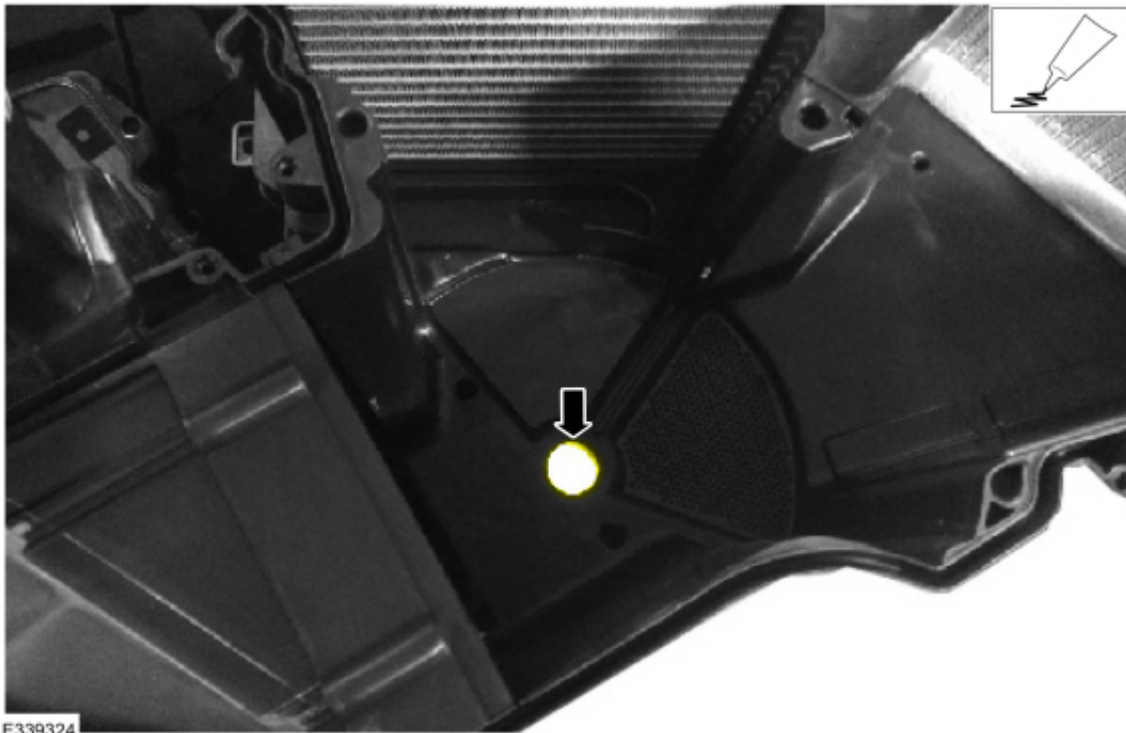
4. Lubricate the climate control housing and temperature blend door bearing surfaces with Motorcraft® HVAC Duct Component Grease. (Figures 5-7)

Figure 5 - Arrows indicate where to lubricate the temperature blend door bearing



E339323

Figure 6 - Arrow indicates where to lubricate the climate control housing surface for the temperature blend door



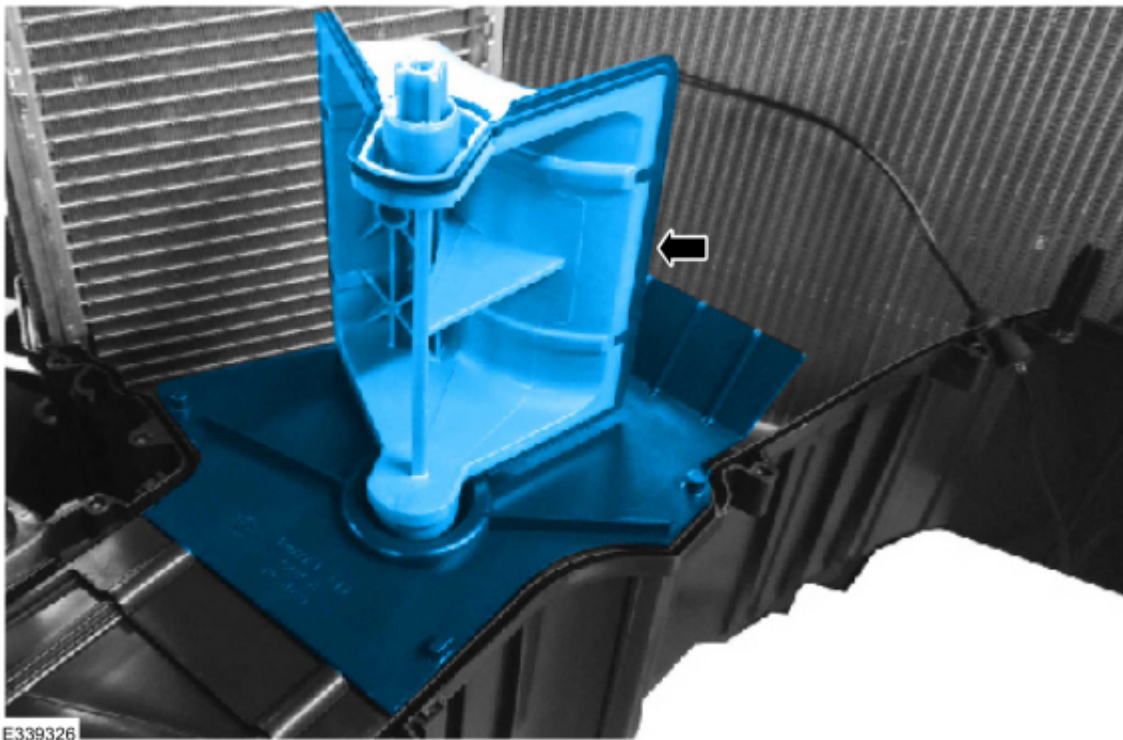
E339324

Figure 7 - Arrow indicates where to lubricate the climate control housing surface for the temperature blend door



5. Reassemble the temperature blend door halves and install back into the climate control housing. Align the temperature blend door support half using the dowel pins. (Figure 8)

Figure 8 - Highlighted area shows temperature blend door assembly properly installed back into the climate control housing



6. Reassemble the lower half of the climate control housing and perform Procedure A when installing the temperature blend door actuator(s), cam(s) and cam follower(s). Refer to WSM, Section 412-00, Installation procedure.

NOTE: F-150 vehicles have a seal near the thermostatic expansion valve (TXV) that may be damaged/crushed if the climate control housing is assembled improperly.

7. Reinstall the climate control housing. Refer to WSM, Section 412-00.

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