



# TECHNICAL SERVICE BULLETIN

## 2.0L EcoBoost - Rattle Noise At The Transmission Bellhousing Area

**22-2381**

12 October  
2022

### Model:

<b>Ford</b> 2015-2018 Fusion	Engine: 2.0L EcoBoost
<b>Lincoln</b> 2015-2018 MKZ	Engine: 2.0L EcoBoost

**Issue:** Some 2015-2018 Fusion/MKZ vehicles equipped with a 2.0L EcoBoost engine may exhibit a rattle noise from the transmission bellhousing area. This may be more noticeable at idle. This may be due to a flexplate crack around the mounting area. To correct the condition, follow the Service Procedure to replace the flexplate, transmission fluid pump, and torque converter.

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

- 2015-2018 Fusion/MKZ
- 2.0L EcoBoost engine
- Rattle noise from the transmission bellhousing area

### Parts

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
1S7Z-6375-D	1	Flexplate	1	1
1L5Z-6379-AA	2	Flexplate Bolts	4	6
W712961-S450B	1	Steering Column Shaft Coupler Bolt (Fusion Built On Or After 04-Apr-2016)	1	1
W714878-S439	1	Steering Column Shaft Coupler Bolt (Fusion Built On Or Before 03-Apr-2016, All MKZ)	4	1
W520215-S440	1	Tie Rod End Nuts	4	2
W705606-S440	1	Stabilizer Bar Link Lower Nuts	2	2
W500545-S439	1	Ball Joint Pinch Bolt	4	2
W520214-S442	2	Ball Joint Pinch Bolt Nuts	1	2
W520214-S440	1	Ball Joint Pinch Bolt Nuts (MKZ)	2	2
W716457-S439	1	Rearward And Forward Front Subframe Bolts	4	4
4S4Z-3N324-AA	1	Halfshaft Bracket	1	1
W520102-S442	1	Halfshaft Bracket Nuts	4	2
BE8Z-6731-AB	1	Engine Oil Filter	1	1
1S7Z-6840-AA	1	Oil Filter Adapter Gasket (Built On Or Before 04-Apr-2016)	1	1
W715618-S437	1	Torque Converter Nuts	4	4
9L8Z-7A103-J	1	Transmission Fluid Pump	1	1
DG9Z-7902-H	1	Torque Converter	1	1
BB5Z-4B422-C	1	Left Halfshaft Circlip	1	1
9L8Z-1177-G	1	Left Halfshaft Seal	1	1

BB5Z-1S177-C	1	Right Halfshaft Seal (FWD)	1	1
9L8Z-7A248-B	4	Clutch Feed Seals (Small)	1	4
9L8Z-7A248-C	1	Clutch Feed Seal (Large)	1	1
BB5Z-7A098-E	1	Transmission Fluid Filter	1	1
W712146-S437	1	Cooler Line Bolt	4	1
W716200-S437	1	Cooler Line Bolt Stud	4	1
CCPZ-3B477-B	1	Right Halfshaft Nut	1	1
CCPZ-3B477-C	1	Right Halfshaft Nut (MKZ)	1	1
DG9Z-7G273-B	1	Right Halfshaft Washer	1	1
W717071-S450	1	Transmission Support Insulator Studs (MKZ)	4	4
XO-5W30-Q1SP	As Needed	Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil (All Markets Except Canada)		
CXO-5W30-LSP6	As Needed	Motorcraft® SAE 5W-30 Super Premium Motor Oil (Canada Only)		
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)		
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)		
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray		
TA-25-B	As Needed	Motorcraft® Threadlock and Sealer		
XL-2	As Needed	Motorcraft® High Temperature Nickel Anti-Seize Lubricant		
TA-29	As Needed	Motorcraft® Ultra Silicone Sealant		

## Parts

### Vehicles Equipped With AWD

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
5F9Z-4682-AA	3	Driveshaft to PTU Bolts	1	3
W520103-S442	1	Tailpipe Nuts	4	2
CV6Z-9450-E	1	Tailpipe Gasket	1	1
W714265-S442	1	Catalytic Converter-To-Turbocharger Nuts (Built On Or After 5-Apr-2016)	4	2
EJ7Z-6L612-A	1	Catalytic Converter-To-Turbocharger Gasket (Built On Or After 5-Apr-2016)	1	1
W718250-S439	1	Upper And Lower PTU Bolts (Built On Or After 9-Jun-2015)	5	5
W500635-S439	5	Upper And Lower PTU Bolts (Built On 13-Aug-2012 And Through 8-Jun-2015)	1	5
9L8Z-1177-C	1	Right Halfshaft Seal (4WD)	1	1
CV6Z-7086-B	1	PTU Compression Seal	1	1
CV6Z-5A231-C	1	Catalytic Converter-To-Turbocharger Clamp (Built On 13-Aug-2012 And Through 04-Apr-2016)	1	1
BB5Z-6L612-A	1	Catalytic Converter-To-Turbocharger Gasket (Built On 13-Aug-		

**Parts****Parts To Inspect And Replace Only If Necessary**

Service Part Number	Quantity	Description
FB5Z-6840-A	If Needed	Oil Filter Adapter Gasket (Built On or after 04-Apr-2016)

Quantity refers to the amount of the service part number required to repair the vehicle.

Unit of Issue refers to the number of individual pieces included in a service part number package.

Piece Quantity refers to the total number of individual pieces required to repair the vehicle.

As Needed indicates the amount of the part may vary and/or is not a whole number. Parts can be billed out as non-whole numbers, including less than 1.

If Needed indicates the part is not mandatory.

**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
2015-2016 Fusion FWD/AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Pass) Includes Time To Remove And Install Starter (Do Not Use With Any Other Labor Operations)	222381A	1.8 Hrs.
2015-2016 Fusion FWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Fail) Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381B	9.4 Hrs.
2015-2016 Fusion AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Fail) Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381C	11.4 Hrs.
2015-2016 MKZ FWD/AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Pass) Includes Time To Remove And Install Starter (Do Not Use With Any Other Labor Operations)	222381D	1.7 Hrs.
2015-2016 MKZ FWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Fail) Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381E	9.7 Hrs.
2015-2016 MKZ AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Fail) Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381F	11.6 Hrs.
2017-2018 Fusion FWD/AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Pass) Includes Time To Remove And Install Starter (Do Not Use With Any Other Labor Operations)	222381G	1.9 Hrs.
2017-2018 Fusion FWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Fail) Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381H	9.9 Hrs.
2017-2018 Fusion AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Fail) Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381J	11.8 Hrs.
2017-2018 MKZ FWD/AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections (Pass) Includes Time To Remove And Install Starter (Do Not Use With Any Other Labor Operations)	222381K	1.9 Hrs.
2017-2018 MKZ FWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381L	10.1 Hrs.
2017-2018 MKZ AWD 2.0L EcoBoost: Retrieve DTCs, Perform Inspections Replace The Flexplate, Torque Convertor, Pump And Filter Includes Time To Remove And Install The Transmission (Can be Claimed With Operation N Or P)	222381M	11.8 Hrs.

2015-2018 Fusion/MKZ Without Lane Departure: Additional Time To Check And Correct Front Toe (Can be Claimed With Labor Operations B, C, E, F, H, J, L Or M)	222381N	0.6 Hrs.
2015-2018 Fusion/MKZ With Lane Departure: Additional Time To Check And Correct Front Toe (Can be Claimed With Labor Operations B, C, E, F, H, J, L Or M)	222381P	0.8 Hrs.

### Repair/Claim Coding

Causal Part:	6375
Condition Code:	01

### Service Procedure

- Check for diagnostic trouble codes (DTCs) that may be causing the rattle noise. Are there any DTCs present that could be causing the rattle noise?
  - Yes - this article does not apply. Refer to Workshop Manual (WSM), Section 100-04 for further diagnostics.
  - No - proceed to Step 2.
- Inspect the vehicle for possible loose or broken components near the engine or transmission that could be causing the rattle noise. The use of chassis ears may aid in narrowing down the noise to the bellhousing area. Are there any loose or broken components?
  - Yes - this article does not apply. Refer to WSM, Section 100-04 for further diagnostics.
  - No - proceed to Step 3.
- Remove the starter motor. Refer to WSM, Section 303-06.
- Placing a borescope between the engine block and flexplate, inspect the flexplate for cracks near the crankshaft. Are there any cracks present in the flexplate? (Figures 1-4)

**NOTE: It may be necessary to rotate the engine crank to find the cracks in the flexplate.**

Figure 1



Figure 2



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Figure 3

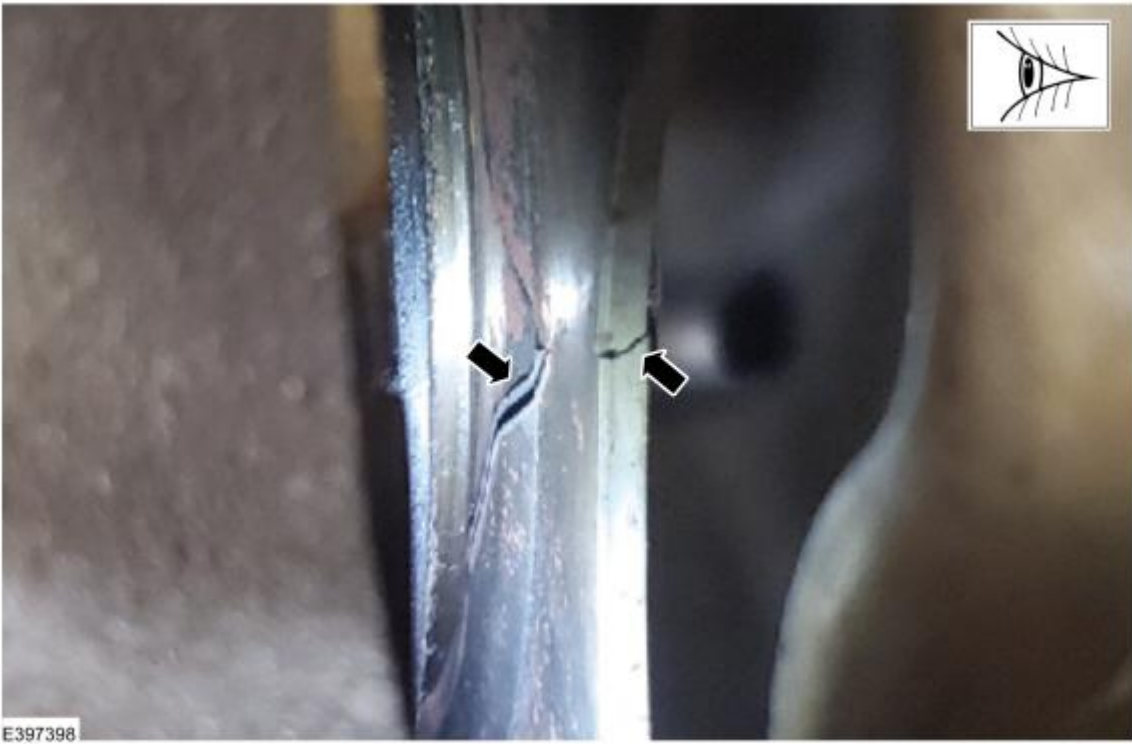
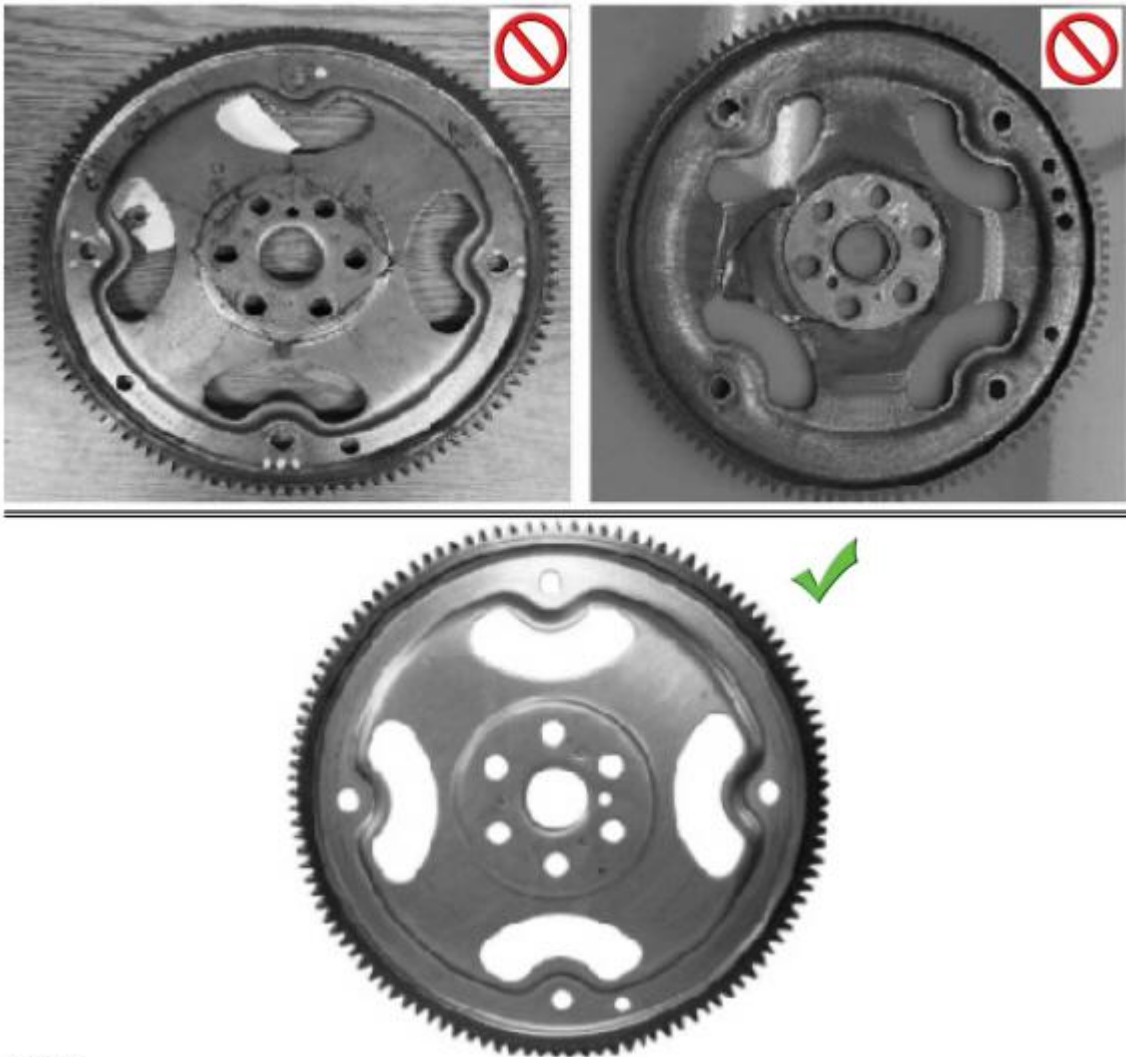


Figure 4





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- (1). Yes - proceed to Step 5.
- (2). No - reinstall the starter motor. Refer to WSM, Section 303-06. For further diagnostics outside this article, refer to WSM, Section 100-04. Repair is complete.
5. Remove the transmission and inspect the engine block mounting face for the presence of dowel pins. If the dowel pins are not present in the engine block, inspect the transmission for the dowel pins. If the dowel pins are present in the transmission, remove the dowel pins and reinstall into the engine block prior to transmission installation. Refer to WSM, Section 307-01A. If dowel pins are damaged or missing, replace as needed.
6. Remove and replace the flexplate. Refer to WSM, Section 303-01B.
7. Remove and discard the torque converter.
8. Remove the torque converter housing from the transmission case. Refer to WSM, Section 307-01A. Steps 6 through 40 are not required.
9. Remove the pump-to-torque converter housing bolts. Remove and discard the pump assembly and fluid filter. Refer to WSM, Section 307-01A.
10. Replace the pump assembly and the fluid filter. Refer to WSM, Section 307-01A.
11. Remove and discard the clutch feed seals. Install the 5 new clutch feed seals. Refer to WSM, Section 307-01A.
12. Reassemble the transmission. Refer to WSM, Section 307-01A.
13. Install the new torque converter. Refer to WSM, Section 307-01A.
14. Apply Motorcraft® Multi-Purpose Grease Spray to the torque converter pilot hub prior to reassembly.
15. Inspect for damage on the crankshaft pilot bore. Is there damage? (Figure 5)

Figure 5



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(1). Yes - rotate the stud hole nearest to the 12 O'clock upright position so that the damaged part of the crankshaft pilot bore is at the 12 O'clock position. This is important to endure minimal imbalance. Proceed to Step 16. (Figure 6)

Figure 6



E397401

(2). No - proceed to Step 17.

**NOTE: The flexplate can be installed in multiple positions.**

**16.** Locate the balance mark on the torque converter and rotate the stud nearest to the 12 O'clock position. (Figure 7)

(1). The balance mark indicates the heavy side of the torque converter.



Figure 7

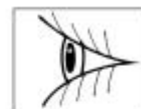
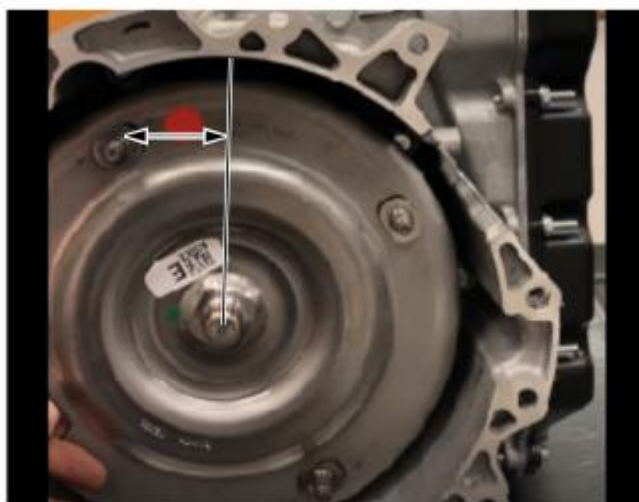


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17. Install the transmission. Refer to WSM, Section 307-01A.

- (1). When tightening the torque converter nuts, rotate the nearest stud the minimal amount to the window and install nut. (Figure 8)

Figure 8



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