



TECHNICAL SERVICE BULLETIN

10R80 Transmission – High-Pitched Whine - Built On 21-Oct-2019 And Through 16-Dec-2019

**20-
2198**
25 August
2020

This bulletin supersedes 20-2083. Reason for update: Missing or Incorrect Applications

Model:

Ford 2020 F-150
2020 Mustang
2019-2020 Ranger

Summary

This article supersedes TSB 20-2083 to update the vehicle model years affected.

Issue: Some 2019-2020 Ranger and 2020 F-150/Mustang vehicles equipped with a 10R80 transmission and built on 21-Oct-2019 and through 16-Dec-2019 may exhibit a high-pitched whine coming from the transmission at low speeds during light acceleration or coasting. This may be due to the outer output shaft bearing. To correct the condition, follow the Service Procedure steps to replace the transmission inner output shaft bearing, fluid passage sleeve and outer output shaft bearing.

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

- One of the following vehicles:
 - 2019-2020 Ranger
 - 2020 F-150/Mustang
- Vehicles built on 21-Oct-2019 and through 16-Dec-2019
- 10R80 automatic transmission
- Customer concern of high-pitched whine coming from transmission

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. "If Needed" indicates the part is not mandatory.

Parts

Part Number		Description	Quantity
JL3Z-7N134-A	Package Contains 1 Piece, 12 Pieces Required	Front Support Bolts	12
HL3Z-7A248-G	-	Front Support To Case Seal	1
7L1Z-4B496-D	Package Contains 1 Piece, 3 Pieces Required	Front Driveshaft CV Joint-To-Transfer Case Flange Cup Bolts And Retaining Straps (F-150 4WD)	3

AB3Z-4B496-A	Package Contains 1 Piece, 6 Pieces Required	CV Joint-To-Pinion Flange Bolts And Retaining Straps (Ranger)	6
7L1Z-4B496-C	Package Contains 1 Piece, 2 Pieces Required	Front Driveshaft CV Joint-To-Pinion Flange Cup Bolts And Retaining Straps (F-150 4WD)	2
BL3Z-9450-A	Package Contains 1 Piece, 2 Pieces Required	Exhaust Manifold Gasket (F-150 3.5L)	2
BR3Z-5B266-A	-	Exhaust Manifold Gasket (Mustang 5.0L)	1
FL3Z-5C226-A	Package Contains 1 Piece, 2 Pieces Required	Exhaust Manifold Gasket (F-150 2.7L)	2
KB3Z-6L612-A	-	Exhaust Manifold Gasket (Ranger)	1
FR3Z-4B496-B	Package Contains 1 Piece, 3 Pieces Required	Driveshaft To Pinion Flange Bolts (Mustang)	3
N800594-S101	Package Contains 4 Pieces, 8 Pieces Required	Driveshaft Flange To Transmission Flange Bolts (Mustang)	2
N800594-S100	Package Contains 4 Pieces, 4 Pieces Required	Driveshaft Flange To Pinion Flange Bolts (F-150)	1
N800594-S100	Package Contains 4 Pieces, 4 Pieces Required	Driveshaft Flange To Transmission Flange Bolts (F-150)	1
W716344-S437	Package Contains 1 Piece, 4 Pieces Required	Driveshaft Flange To Transmission Flange Bolts (Ranger)	4
W710233-S437	Package Contains 1 Piece, 4 Pieces Required	Driveshaft Flange To Pinion Flange Bolts (Ranger 2WD)	4
W715579-S439	Package Contains 4 Pieces, 2 Pieces Required	Driveshaft Center Bearing Bolts (F-150 With 2-Piece Driveshaft)	1
W714780-S439	Package Contains 4 Pieces, 2 Pieces Required	Driveshaft Center Bearing Bolts (Ranger With 2-Piece Driveshaft)	1
W717822-S439	Package Contains 4 Pieces, 2 Pieces Required	Driveshaft Center Bearing Bolts (Mustang With 2-Piece Driveshaft)	1
W719298-S439	Package Contains 4 Pieces, 3 Pieces Required	Driveshaft Flex Coupling To Transmission Flange Bolts (Mustang)	1
W500121-S437	Package Contains 4 Pieces, 9 Pieces Required	Transfer Case To Transmission Bolts (Ranger 4WD)	3
W716375-S900	Package Contains 5 Pieces, 9 Pieces Required	Transfer Case To Transmission Bolts (F-150 4WD)	2
W500642-S437	Package Contains 1 Piece, 4 Pieces Required	Left And Right Isolator Bolt (Ranger)	4
W520114-S442	Package Contains 4 Pieces, 2 Pieces Required	Transmission Mount Nuts (Ranger)	1
W709771-S440	Package Contains 1 Piece, 2 Pieces Required	Transmission Mount Nuts (F-150)	2

W520514-S440	Package Contains 1 Piece, 4 Pieces Required	Catalytic Converter Nuts (F-150 All Gasoline Engines)	4
W705443-S900	Package Contains 4 Pieces, 2 Pieces Required	Catalytic Converter Nuts (Mustang 5.0L)	1
W714265-S442	Package Contains 4 Pieces, 3 Pieces Required	Catalytic Converter Nuts (Ranger)	1
W700056-S450B	Package Contains 4 Pieces, 2 Pieces Required	Selector Lever Cable Bracket Bolts (Ranger)	1
W710726-S437	Package Contains 4 Pieces, 2 Pieces Required	Selector Lever Cable Bracket Bolts (Mustang)	1
W711140-S900	Package Contains 1 Piece, Gas Engine Requires 3 Pieces, Diesel Engine Requires 4 Pieces	Transmission Support Isolator Bolts And Washers (F-150)	3 For Gas Engine, 4 For Diesel Engine
W714418-S439	Package Contains 4 Pieces, 4 Pieces Required	Transmission Support Crossmember Bolts (F-150)	1
W500754-S439	Package Contains 4 Pieces, 4 Pieces Required	Transmission Support Crossmember Bolts (Ranger)	1
W520114-S442	Package Contains 4 Pieces, F-150 Requires 4 Pieces, Ranger Requires 2 Pieces	Transmission Support Crossmember Nuts (F-150/Ranger)	1
W520515-S442	Package Contains 4 Pieces, 8 Pieces Required	Transmission Support Crossmember Nuts (Ranger)	2
W500747-S439	Package Contains 1 Piece, 4 Pieces Required	Transmission Support Crossmember Support Bolts (Ranger)	4
W718353-S900	Package Contains 4 Pieces, 4 Pieces Required	Transmission Support Insulator Bolts (F-150 Gas Engine 2WD)	1
W718926-S900	Package Contains 4 Pieces, 4 Pieces Required	Transmission Support Isolator Bolts (F-150 3.0L)	1
W715131-S442	Package Contains 4 Pieces, 1 Piece Required	Fluid Cooler Tube Bracket Bolt (F-150 5.0L)	1
W715798-S437	Package Contains 4 Pieces, 1 Piece Required	Fluid Cooler Tube Bracket Bolt (F-150 2.7L/3.5L)	1
W715131-S437	Package Contains 4 Pieces, 1 Piece Required	Fluid Cooler Tube Bracket Bolt (F-150 3.0L/Mustang)	1
W715618-S437	Package Contains 4 Pieces, F-150 Gas Engine/Mustang 5.0L Require 4 Pieces, F-150 3.0L/Mustang 2.3L/Ranger Require 6 Pieces	Torque Converter Nuts	1 For F-150 Gas Engine/Mustang 5.0L, 2 For F-150 3.0L/Mustang 2.3L/Ranger
HL3Z-7A248-A	-	Torque Converter Seal	1
W719427-S439	Package Contains 4 Pieces, 2 Pieces Required	Stabilizer Bar Bracket Bolts (Ranger)	1
W520113-S440	Package Contains 4 Pieces, 4 Pieces Required	Stabilizer Bar Bracket Nuts (F-150)	1
W716936-S442	Package Contains 1 Piece, 2 Pieces Required	Stabilizer Bar Bracket Nuts (Ranger)	2

FL3Z-6775-D	-	Self-Adhesive Heat Shield Material (F-150)	1
L1MZ-7A098-A	-	Transmission Fluid Filter	1
HL3Z-7G199-A	-	Auxiliary Pump Tube Seal	1
HL3Z-7N134-C	-	Output Shaft Flange Bolt	1
HL3Z-7085-B	-	Output Shaft Nut	1
HL3Z-7052-A	-	Output Shaft Seal (2WD)	1
HL3Z-7052-B	-	Output Shaft Seal (4WD)	1
HL3Z-7D019-A	Package Contains 1 Piece, 2 Pieces Required	Output Shaft Seals	2
JR3Z-00811-A	-	Output Shaft Flange Retaining Nut (3 Lobe) (Mustang 2.3L)	1
HL3Z-7A415-B	-	Outer Output Shaft Bearing	1
HL3Z-7A283-A	-	Fluid Passage Sleeve	1
HL3Z-7A415-C	-	Inner Output Shaft Bearing	1
BE8Z-6731-AB	-	Engine Oil Filter (Ranger)	1
XL-5-A	-	Motorcraft® Multi-Purpose Grease Spray	As Needed
TA-25-B	-	Motorcraft® Threadlock and Sealer (Mustang Convertible)	As Needed
XG-11	-	Motorcraft® High Temperature 4x4 Front Axle and Wheel Bearing Grease	AS Needed
XL-2	-	Motorcraft® High Temperature Nickel Anti-Seize Lubricant (Ranger)	As Needed
PM-4-A	-	Motorcraft® Metal Brake Parts Cleaner (Ranger) (Compliant With Low Volatile Organic Compound Requirements As Required In Some USA States)	As Needed
PM-4-B	-	Motorcraft® Metal Brake Parts Cleaner (Ranger) (Not Compliant With Volatile Organic Compound Requirements)	As Needed
VC-13DL-G	-	Motorcraft® Yellow Prediluted Antifreeze/Coolant (F-150/Ranger) (All Markets Except Canada)	As Needed

CVC-13DL-G	-	Motorcraft® Yellow Prediluted Antifreeze/Coolant (F-150/Ranger) (Canada Only)	As Needed
XO-5W30-Q1SP	-	Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil (Ranger) (All Markets Except Canada)	As Needed
CXO-5W30-LSP6	-	Motorcraft® SAE 5W-30 Super Premium Motor Oil (Ranger) (Canada Only)	As Needed
XT-12-QULV	-	Motorcraft® MERCON® ULV Automatic Transmission Fluid	As Needed
XT-10-QLVC	-	Motorcraft® MERCON® LV Automatic Transmission Fluid (F-150 4WD) (All Markets Except Canada)	As Needed
CXT-10-LV6	-	Motorcraft® MERCON® LV Automatic Transmission Fluid (F-150 4WD) (Canada Only)	As Needed
Inspect And Replace Only If Necessary			
JB3Z-7J227-A	Package Contains 1 Piece	Fluid Cooler O-Ring Seals (Ranger)	If Needed
5L7Z-7D285-A	Package Contains 2 Pieces	Cooler Line Seal (F-150/Mustang)	If Needed
5L7Z-7J324-A	Package Contains 2 Pieces	Cooler Line Seal Ring (F-150/Mustang)	If Needed
HL3Z-7A191-B	-	Transmission Fluid Pan Gasket	If Needed
HL3Z-7J227-A	-	Auxiliary Pump Tube O-Ring	If Needed
HL3Z-7A248-D	-	Main Control-To-Transmission Fluid Pump Seal	If 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
2020 Mustang 5.0L With 10R80 Transmission: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198A	8.8 Hrs.
2020 Mustang 2.3L EcoBoost With 10R80 Transmission: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198B	7.9 Hrs.
2019-2020 Ranger 4X2: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198C	9.8 Hrs.
	202198D	

2019-2020 Ranger 4X4: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)		10.6 Hrs.
2020 F-150 4X2 2.7L EcoBoost: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198E	9.5 Hrs.
2020 F-150 4X4 2.7L EcoBoost: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198F	10.4 Hrs.
2020 F-150 4X2 3.0L Diesel: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198G	8.2 Hrs.
2020 F-150 4X4 3.0L Diesel: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198H	9.0 Hrs.
2020 F-150 4X2 3.5L EcoBoost: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198J	9.4 Hrs.
2020 F-150 4X4 3.5L EcoBoost: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198K	10.4 Hrs.
2020 F-150 4X2 5.0L TiVCT: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198L	9.3 Hrs.
2020 F-150 4X4 5.0L TiVCT: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198M	10.3 Hrs.
2020 Mustang Convertible 5.0L With 10R80 Transmission: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198N	9.2 Hrs.
2020 Mustang Convertible 2.3L EcoBoost With 10R80 Transmission: Road Test To Verify Concern, Replace The Inner Output Shaft Bearing, Fluid Passage Sleeve And Outer Output Shaft Bearing (Do Not Use With Any Other Labor Operations)	202198O	8.3 Hrs.

Repair/Claim Coding

Causal Part:	7A415
Condition Code:	D4

Service Procedure

1. Isolate the high-pitched whine condition by road testing the vehicle at normal operating temperature, use the Automatic Transmission Select Shift feature to select and hold 3rd gear while driving on flat ground. The high-pitched whine noise peaks at speeds between 30-40 km/h (18-25 mph) during light acceleration and while coasting down in 3rd gear. The high-pitched whine noise goes away when in NEUTRAL.
2. Is the high-pitched whine present?
 - (1). Yes - proceed to Step 3.
 - (2). No - this article does not apply. Refer to the Workshop Manual (WSM), Section 100-04 for normal diagnosis.
3. Remove the transmission. Refer to WSM, Section 307-01.

4. Disassemble transmission, perform only the necessary steps to remove the output shaft and planetary carrier No. 4 assembly from the transmission case. Refer to WSM, Section 307-01 > Overhaul.

(1). It is only necessary to remove the following:

- Torque converter
- Transmission fluid auxiliary pump
- Main control assembly
- All 4 speed sensors (intermediate speed sensor A [ISSA], intermediate speed sensor B [ISSB], turbine shaft speed [TSS] and output shaft speed [OSS])
- Fluid pump
- Output shaft seal
- Front support
- Clutch and planetary assembly
- Output shaft and planetary carrier No. 4 assembly

5. Remove the inner output shaft bearing, fluid passage sleeve and outer output shaft bearing from the transmission case. It is not necessary to remove any other parts except for the bearings and passage sleeve. Refer to WSM Section 307-01 > Disassembly.

6. Install new inner output shaft bearing, fluid passage sleeve and outer output shaft bearing into the transmission case. Refer to WSM Section 307-01 > Assembly.

7. To reassemble, reverse the removal procedure. Refer to WSM, Section 307-01 > Overhaul.

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

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NOTE: The information in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford or Lincoln dealership to determine whether the Bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.