



23-2351

14 November
2023

TECHNICAL SERVICE BULLETIN

10R80/10R80 MHT Automatic Transmission - Harsh/Delayed Engagement And/Or Harsh/Delayed Shift - Main Control Break-In Capable Vehicles

Model:

Ford 2022-2023 Expedition	Transmission/Transaxle: 10R80
2020-2023 Explorer	Transmission/Transaxle: 10R80 Transmission/Transaxle: 10R80 MHT
2021-2023 F-150	Transmission/Transaxle: 10R80 Transmission/Transaxle: 10R80 MHT
2022-2023 Mustang	Transmission/Transaxle: 10R80
2020-2023 Transit	Transmission/Transaxle: 10R80
Lincoln 2020-2023 Aviator	Transmission/Transaxle: 10R80 MHT
2022-2023 Navigator	Transmission/Transaxle: 10R80

Issue: Some 2021-2023 F-150, 2022-2023 Expedition/Navigator, 2022-2023 Mustang, 2020-2023 Transit, 2020-2023 Explorer/Aviator vehicles equipped with a 10R80/10R80MHT transmission may exhibit a harsh/delayed engagement and/or harsh/delayed shift, an illuminated malfunction indicator lamp (MIL) with diagnostic trouble codes (DTC) P0751, P0752, P0756, P0757, P0761, P0762, P0766, P0767, P0771, P0772, P2700, P2701, P2702, P2703, P2704, P2705, P2707, P2708, P0729, P0731, P0732, P0733, P0734, P0735, P0736, P076F, P07D9, P07F6 and/or P07F7 stored in the powertrain control module (PCM) or transmission control module (TCM). This may be due to the software in the powertrain control module (PCM) or transmission control module (TCM), the transmission solenoid ID strategy, sticking valves in the main control valve body and/or axial movement of the CDF clutch cylinder (7H351) sleeve. To correct the condition, follow the Service Procedure to identify and correct the condition.

NOTE: This article is for information only. Determine the causal part number and use available labor times in Section 7 of the Service Labor Time Standards (SLTS) Manual or claim M-time in accordance with the Warranty and Policy Manual. Causal part number IN in this article refers to the information only status and is not able to be claimed.

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

- One of the following vehicles:
 - 2021-2023 F-150
 - 2022-2023 Expedition/Navigator/Mustang
 - 2020-2023 Explorer/Aviator/Transit
- One of the following transmissions:
 - 10R80

- 10R80 MHT

• At least one of the following conditions:

- DTC P0751, P0752, P0756, P0757, P0761, P0762, P0766, P0767, P0771, P0772, P2700, P2701, P2702, P2703, P2704, P2705, P2707, P2708, P0729, P0731, P0732, P0733, P0734, P0735, P0736, P076F, P07D9, P07F6 and/or P07F7
- Harsh engagement
- Delayed engagement
- Harsh shift
- Delayed shift

Parts - All Vehicles - Main Control Overhaul

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
W712658-S439	1	Solenoid Retaining Plate Bolt	4	2
HL3Z-7G007-A	6	Solenoid Retaining Clips	1	6
JL1Z-7N134-A	1	Park Override Bolt (Expedition/Navigator)	1	1
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid		

Parts - All Vehicles - Main Control Overhaul - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
HL3Z-7A191-B	If Needed	Fluid Pan Gasket (10R80)	1	1
L1MZ-7F396-A	If Needed	Fluid Pan Gasket (10R80 MHT)	1	1
L1MZ-7A098-A	If Needed	Fluid Filter (10R80 F-150/Expedition/Navigator/Mustang/Explorer)	1	1
LK4Z-7A098-A	If Needed	Fluid Filter (10R80 Transit)	1	1
L1MZ-7N265-A	If Needed	Fluid Pan To Case Seals (10R80 MHT)	1	2
BL8Z-7G199-A	If Needed	Hybrid Drive Unit Feed Tube Seals (10R80 MHT)	1	2
L1MZ-7A098-B	If Needed	Fluid Filter (10R80 MHT)	1	1
L1MZ-7J135-A	If Needed	Auxiliary Pump Seal (10R80 MHT)	1	1
7T4Z-7Z302-A	If Needed	Transmission Fluid Filter Seal	1	1
HL3Z-7J227-A	If Needed	Auxiliary Pump Tube O-ring (If Equipped)	1	1
HL3Z-7Z490-E	If Needed	Chanel Plate	1	1
ML3Z-7Z490-B	If Needed	Separator Plate (10R80 MHT F-150)	1	1
L1MZ-7Z490-E	If Needed	Separator Plate (10R80 F-150/Expedition/Navigator)	1	1
L1MZ-7Z490-F	If Needed	Separator Plate (10R80 Explorer/Transit)	1	1
L1MZ-7Z490-J	If Needed	Separator Plate (Mustang)	1	1
L1MZ-7Z490-G	If Needed	Separator Plate (Aviator, 10R80 MHT Explorer With Electronic Shift)	1	1
L1MZ-7Z490-H	If Needed	Separator Plate (10R80 MHT Explorer Without Electronic Shift)	1	1

Parts - All Vehicles - CDF Cylinder Replacement

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
HL3Z-7G199-A	1	Auxiliary Pump Tube Seal (Stop/Start) (10R80)	1	1
HL3Z-7A248-A	1	Torque Converter Seal (10R80)	1	1
JL3Z-7N134-A	12	Front Support Bolts (10R80)	1	12
LC3Z-7H223-A	12	Front Support Bolt Seals (10R80)	1	12
HL3Z-7A248-G	1	Front Support To Case Seal (10R80)	1	1
HL3Z-7G091-F	5	Input Shaft Seals (F2)	1	5
HL3Z-7B399-C	4	Sun Gear No. 3 Shaft Seals (F7)	1	4
HL3Z-7C099-A	1	C Clutch Balance Dam Inner Seal	1	1
HL3Z-7A548-B	2	C Clutch Balance Dam And Piston Outer Seal	1	2
HL3Z-7D404-A	2	C And D Clutch Piston Inner Seals	1	2
HL3Z-7A262-C	1	D Clutch Balance Dam	1	1
HL3Z-7D403-A	1	D Clutch Piston Outer Seal	1	1
HL3Z-7A548-G	2	F Clutch Balance Dam And Piston Outer Seal	1	2
HL3Z-7A548-A	2	F Clutch Balance Dam And Piston Inner Seal	1	2
HL3Z-7G091-G	5	Input Shaft To Sun Gear No. 3 Shaft Seals (F8)	1	5
HL3Z-7G091-C	1	Input Shaft Seal (F9)	1	1
JL3Z-7H351-B	1	CDF Cylinder (Transit/3.0L Explorer/5.0L Mustang 10R80, Explorer/Aviator 10R80 MHT)	1	1
JR3Z-7H351-B	1	CDF Cylinder (3.3L Explorer/2.3L Mustang 10R80)	1	1
ML3Z-7H351-B	1	CDF Cylinder (F-150/Expedition/Navigator)	1	1

Parts - All Vehicles - CDF Cylinder Replacement - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
ML3Z-7A191-A	If Needed	Hybrid Drive Unit Gasket (10R80 MHT)	1	1
HL3Z-7B066-AB	If Needed	A Pressure Plate	1	1
HL3Z-7B164-E	If Needed	A Clutch Friction Plates	1	3
HL3Z-7F220-A	If Needed	A Clutch Steel Plates	1	2

HL3Z-7B442-F	If Needed	C Clutch Steel Plates	1	F-150/Mustang/Expedition/Navigator/Explorer/Aviator Require 5 Pieces, Transit Require 4 Pieces
HL3Z-7B164-A	If Needed	C Clutch Friction Plates	1	F-150/Mustang/Expedition/Navigator/Explorer/Aviator Require 5 Pieces, Transit Require 4 Pieces
ML3Z-7H095-A	If Needed	C Clutch Friction Plates (F-150/Expedition/Navigator)	1	5
ML3Z-7B477-A	If Needed	C Clutch Pressure Plate	1	5
HL3Z-7B442-D	If Needed	D Clutch Steel Plates	1	F-150/Mustang/Expedition/Navigator/Explorer/Aviator Require 6 Pieces, Transit Require 5 Pieces
HL3Z-7B164-C	If Needed	D Clutch Friction Plates (Transit/Mustang/Explorer/Aviator)	1	6
ML3Z-7B164-A	If Needed	D Clutch Friction Plates (F-150/Expedition/Navigator)	1	6
HL3Z-7B066-E	If Needed	D Clutch Pressure Plate	1	1
HL3Z-7B164-G	If Needed	F Clutch Steel Plates	1	F-150/Expedition/Navigator/Mustang/Explorer/Aviator Require 4 Pieces, Transit Require 3 Pieces
HL3Z-7B164-D	If Needed	F Clutch Friction Plates	1	F-150/Expedition/Navigator/Mustang/Explorer/Aviator Require 4 Pieces, Transit Require 3 Pieces
HL3Z-7B066-A	If Needed	F Clutch Pressure Plate	1	1

Parts - All Vehicles - CDF Cylinder Replacement - Select One Of The Following If Needed

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
HL3Z-7B066-AA	If Needed	A Clutch Apply Plate 4.1 - 4.3 mm Selective	1	1
HL3Z-7B066-Z	If Needed	A Clutch Apply Plate 4.4 - 4.6 mm Selective	1	1
HL3Z-7B066-Y	If Needed	A Clutch Apply Plate 4.7 - 4.9 mm Selective	1	1
HL3Z-7B066-X	If Needed	A Clutch Apply Plate 5.0 - 5.2 mm Selective	1	1
HL3Z-7B066-W	If Needed	A Clutch Apply Plate 5.3 - 5.5 mm Selective	1	1
HL3Z-7H032-C	If Needed	T-3 Bearing (Replace If T-3 Shim Is Replaced)	1	1
HL3Z-7A527-Q	If Needed	T-3 Shim 3.05-3.15 mm Selective	1	1
HL3Z-7A527-P	If Needed	T-3 Shim 3.2-3.3 mm Selective	1	1
HL3Z-7A527-R	If Needed	T-3 Shim 3.35-3.45 mm Selective	1	1
HL3Z-7A527-K	If Needed	T-3 Shim 3.5-3.6 mm Selective	1	1
HL3Z-7A527-L	If Needed	T-3 Shim 3.65-3.75 mm Selective	1	1

HL3Z-7A527-M	If Needed	T-3 Shim 3.8-3.9 mm Selective	1	1
HL3Z-7A527-S	If Needed	T-3 Shim 3.95-4.05 mm Selective	1	1
HL3Z-7A527-T	If Needed	T-3 Shim 4.1-4.2 mm Selective	1	1
HL3Z-7A527-N	If Needed	T-3 Shim 4.25-4.35 mm Selective	1	1
HL3Z-7D483-A	If Needed	D Clutch Snap Ring 1.8 mm Selective	1	1
HL3Z-7D483-B	If Needed	D Clutch Snap Ring 2.0 mm Selective	1	1
HL3Z-7D483-C	If Needed	D Clutch Snap Ring 2.2 mm Selective	1	1
HL3Z-7D483-D	If Needed	D Clutch Snap Ring 2.4 mm Selective	1	1
HL3Z-7D483-E	If Needed	D Clutch Snap Ring 2.6 mm Selective	1	1
HL3Z-7D483-F	If Needed	D Clutch Snap Ring 2.8 mm Selective	1	1
HL3Z-7C122-A	If Needed	C Clutch Snap Ring 1.5 mm Selective	1	1
HL3Z-7C122-B	If Needed	C Clutch Snap Ring 1.7 mm Selective	1	1
HL3Z-7C122-C	If Needed	C Clutch Snap Ring 1.9 mm Selective	1	1
HL3Z-7C122-D	If Needed	C Clutch Snap Ring 2.1 mm Selective	1	1
HL3Z-7C122-E	If Needed	C Clutch Snap Ring 2.3 mm Selective	1	1
HL3Z-7C122-F	If Needed	C Clutch Snap Ring 2.5 mm Selective (10R80 Only)	1	1
HL3Z-7H365-C	If Needed	F Clutch Snap Ring 1.5 mm Selective	1	1
HL3Z-7H365-D	If Needed	F Clutch Snap Ring 1.7 mm Selective	1	1
HL3Z-7H365-E	If Needed	F Clutch Snap Ring 1.9 mm Selective	1	1
HL3Z-7H365-F	If Needed	F Clutch Snap Ring 2.1 mm Selective	1	1
HL3Z-7H365-G	If Needed	F Clutch Snap Ring 2.3 mm Selective	1	1

Parts - F-150/Expedition/Navigator Transmission Removal And Installation

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity	Note
7L1Z-4B496-C	2	CV Joint-To-Pinion Flange Cup Bolts And Retaining Straps (4WD)	1	2	
FL3Z-6775-D	1	Self-Adhesive Heat Shield	1	1	
7L1Z-4B496-D	3	CV Joint-To-Transfer Case Flange Cup Bolts And Retaining Straps (4WD Expedition/Navigator)	1	3	
JL1Z-7N134-A	1	Park Override Lever Bolt (Non-Column Shift Expedition/Navigator)	1	1	
FL3Z-5C226-A	2	Left And Right Catalytic Converter Gasket (F-150 2.7L)	1	2	
ML3Z-5C226-A	2	Left And Right Catalytic Converter Gasket (F-150 3.5L)	1	2	

W520113-S440	1	Stabilizer Bar Bracket Nuts	4	4	
W520114-S442	1	Transmission Support Crossmember Nuts	4	4	
W520514-S440	4	Left And Right Catalytic Converter Nuts (All Gas/Hybrid)	1	4	
W704980-S439	1	Park Manual Release Cable Bracket Bolt (All Gas/Hybrid)	4	1	
W709771-S440	2	Transmission Mount Nuts	1	2	
W711140-S901	3	Transmission Insulator Bolts And Washers (RWD Gas Non-Hybrid)	1	3	
W714418-S439	1	Transmission Support Crossmember Bolts	4	4	
W714717-S439	1	Muffler Inlet Pipe Bolts (10R80 MHT)	4	2	
W715131-S437	1	Transmission Fluid Cooler Tube Bracket Bolt (Expedition/Navigator)	4	1	
W715618-S437	1 For Gas (non-hybrid), 2 For Diesel	Torque Converter Nuts (10R80)	4	4 For Gas (Non-Hybrid), 6 For Diesel	Does not apply to hybrid
W715798-S442	1	Fluid Cooler Tube Stud Bolt 3.0L (Park Manual Release Cable Bracket Bolt 3.5L)	4	1	
W716375-S900	2	Transfer Case Bolts (4WD)	5	9	
W718353-S900	1	Transmission Insulator Bolts (4WD) (Gas/Hybrid)	4	4	
W718926-S900	1	Transmission Insulator Bolts (4WD) (Diesel)	4	4	
W715579-S439	1	Driveshaft Center Bearing Bolt (If Equipped With Two Piece Driveshaft)	4	2	
TA-24-B	As Needed	Motorcraft® Thread Sealant With PTFE (4WD)			
VC-13DL-G	As Needed	Motorcraft® Yellow Prediluted Antifreeze/Coolant (All Markets Except Canada)			
CVC-13DL-G	As Needed	Motorcraft® Yellow Prediluted Antifreeze/Coolant (Canada Only)			
XG-1-E1	As Needed	Motorcraft® Premium Long-Life Grease			
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray			
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (All Markets Except Canada)			Transfer Case Fluid
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (Canada Only)			Transfer Case Fluid
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid			

Parts - F-150/Expedition/Navigator Transmission Removal And Installation - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
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4W9Z-6397-A	If Needed	Engine Block Dowel Pins (3.0L)	1	2
5L7Z-7D285-A	If Needed	Transmission Fluid Cooler Tube Seals (3.0L/3.5L)	2	2
5L7Z-7J324-A	If Needed	Transmission Fluid Cooler Tube Backing Rings (3.0L/3.5L)	2	2
ML3Z-4421-A	If Needed	Front Driveshaft Slip Yoke Boot	1	1
W701228-S300	If Needed	Engine Block Dowel Pins (5.0L)	4	2
W718758-S300	If Needed	Engine Block Dowel Pins (2.7L/3.3L/3.5L)	4	2

Parts - F-150/Expedition/Navigator Transmission Removal And Installation - Rear Driveshaft Bolts And Straps - Not All Vehicles Will Use All Of The Parts Listed

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
W500635-S439	1	Driveshaft Center Bearing Bolt (If Equipped With Two Piece Driveshaft)	1	1
W713095-S437	1	Driveshaft Center Bearing Nut (If Equipped With Two Piece Driveshaft)	4	1
W719738-S439	1	Driveshaft Center Bearing Bracket Mounting Stud (If Equipped With Two Piece Driveshaft)	4	1
N800594-S100	1 Or 2	Driveshaft Flange To Flange Bolts (F-150)	4	4 Or 8 (Flange Dependent)
N811880-S100	1 Or 2	Driveshaft Flange To Flange Bolts (Expedition/Navigator)	4	4 Or 8 (Flange Dependent)

Parts - Mustang Transmission Removal And Installation

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
BR3Z-5B266-A	1	Exhaust Gasket (5.0L Mustang)	1	1
W705443-S900	1	Catalytic Converter Flange Nuts (5.0L)	4	2
W710726-S437	1	Selector Lever Cable Bolts	4	2
W715131-S437	1	Transmission Fluid Cooler Tube Bolt	4	1
W715618-S437	1 For 5.0L, 2 For 2.3L	Torque Converter Nuts	4	5.0L Requires 4 Pieces, 2.3L Requires 6 Pieces
FR3Z-4B496-B	3	Driveshaft To Pinion Flange Bolts	1	3
W719298-S439	1	Driveshaft To Transmission Flange Bolts (If Equipped) (2.3L Mustang)	4	3
N800594-S101	1	Driveshaft To Transmission Flange Bolts (If Equipped) (5.0L Mustang)	4	4
W500545-S439	1	Driveshaft To Transmission Flange Bolts	4	3
W717822-S439	1	Driveshaft Center Bearing Bolts (If Equipped)	4	2

TA-25-B	As Needed	Motorcraft® Threadlock and Sealer (Convertible)		
XL-1	As Needed	Motorcraft® Penetrating and Lock Lubricant		
XL-2	As Needed	Motorcraft® High Temperature Nickel Anti-Seize Lubricant		
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray		
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid		

Parts - Mustang Transmission Removal And Installation - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
5L7Z-7D285-A	If Needed	Transmission Fluid Cooler Tube Seals	2	2
5L7Z-7J324-A	If Needed	Transmission Fluid Cooler Tube Backing Rings	2	2
JR3Z-4782-B	If Needed	Flex Coupling Driveshaft	1	1

Parts - Transit Transmission Removal And Installation

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity	Note
LK4Z-3B498-A	1	Halfshaft Circlip (AWD)	1	1	
LK4Z-4B496-A	3	CV Joint-To-Pinion Flange Cup Bolts And Retaining Straps (AWD)	1	3	
N800594-S100	1 Or 2	Driveshaft Flange To Flange Bolts - Refer To The Parts Catalog For VIN Specific Application	4	4 Or 8 (Flange Dependent)	
W506434-S439	3	Lower Load Push Bar Retainers	4	12	
W520215-S442	1	Tie Rod End Nut / Front Subframe Forward Nuts (2 Per Application)	4	4	
W520514-S440	4	Left And Right Catalytic Converter Nuts	1	4	
W709176-S300	1	Splash Shield Push Pins	4	2	
W710660-S441	1	Transmission Support Insulator Nuts	4	2	
W711076-S442	1	Lower Ball Joint Nut	4	2	
W711137-S442	1	Steering Column Shaft Bolt	4	1	
W712503-S440	2	Front Stabilizer Bar Link Rod Nuts	1	2	
W713078-S439	1	Driveshaft Center Bearing Bolts - Refer To The Parts Catalog For VIN Specific Application	4	2 Or 4	
W715618-S437	1	Torque Converter Nuts	4	4	
W716331-S439	1	Transmission Crossmember Bolts	4	4	
W718943-S439	1	Front Subframe Rearward Bolts	4	2	
W719972-S439	2	Front Axle Bolts (AWD)	4	5	

W720688-S439	1	Front Axle To Transmission Bolt (AWD)	4	1	
W709653-S303	1	Front Floor Heat Shield - Pop Rivets	4	2	
W505264-S442	2	Driveshaft Safety Strap Bolts (If Equipped)	1	2	
KK2Z-00811-A	2	Wheel Hub Nut	1	2	
W500463-S442	1	Brake Caliper Anchor Plate Bolt	4	4	
W719976-S439	1	Front Axle Tube Bolt	4	2	
XY-75W140-QL	As Needed	Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant			
VC-13DL-G	As Needed	Motorcraft® Yellow Prediluted Antifreeze/Coolant (All Markets Except Canada)			
CVC-13DL-G	As Needed	Motorcraft® Yellow Prediluted Antifreeze/Coolant (Canada Only)			
XG-1-E1	As Needed	Motorcraft® Premium Long-Life Grease			
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray			
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (All Markets Except Canada)			Transfer Case Fluid
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (Canada Only)			Transfer Case Fluid
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid			

Parts - Transit Transmission Removal And Installation - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
LJ9Z-7J227-A	If Needed	Transmission Fluid Cooler Tube Seals	1	4
LK4Z-3A427-A	If Needed	Left Inner CV Joint Halfshaft (AWD)	1	1
LK4Z-3A428-A	If Needed	Right Outer CV Joint Halfshaft (AWD)	1	1
W718758-S300	If Needed	Engine Block Dowel Pins (3.5L)	4	2
W719583-S900	If Needed	Catalytic Converter Studs (3.5L) (AWD)	4	3.5L EcoBoost Requires 2, 3.5L Duratec Requires 4

W720627-S900	If Needed	Left Catalytic Converter Studs - (3.5L EcoBoost) (AWD)	4	2
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Parts - Explorer/Aviator Transmission Removal And Installation

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity	Note
W715131-S442	1	Transmission Fluid Cooler Tube Bracket Bolt	4	2	
W710726-S442	1	Selector Lever Cable Bracket Bolts	2	2	
W500213-S442	1	Park Manual Release Bracket Bolt (Aviator 10R80 MHT)	4	1	
W715618-S437	1 For 3.3L, 2 For All Others	Torque Converter Nuts	4	3.3L Requires 4 Pieces, All Others Require 6 Pieces	
LB5Z-3B498-A	1	Axle Pinion Stem Circlip	1	1	
LIMZ-4A015-B	1	Axle Pinion Stem O-ring	1	1	
L1MZ-3B478-A	1	Front Driveshaft Boot Clamp	1	1	
L1MZ-4421-A	1	Front Driveshaft Boot	1	1	
W719511-S439	1 Or 2	Driveshaft Flex Coupling Bolts	4	3 Pieces Required If Driveshaft Is Disconnected At Only One End, 6 Pieces Required If Coupler Or Driveshaft Alignment Bushing Are Replaced	
W716375-S900	2	Transfer Case Bolts (4WD)	5	8	
W719431-S439	1	Transmission Mount Bolts	4	RWD Requires 2 Pieces, AWD Requires 3 Pieces	
W520214-S440	1	Transmission Mount Nut	2	1	
W721083-S439	1	Transmission Crossmember Bolts	4	4	
W719413-S439	1	Middle Subframe Bolts (3.0L 10R80)	4	2	
W716979-S439	1	Rear Subframe Bolts (3.0L 10R80)	4	2	
W719699-S442	2 For 3.0L, 3 For 2.3L, 4 For 3.3L	Catalytic Converter Nuts	1	3.0L Requires 2 Pieces, 2.3L Requires 3 Pieces, 3.3L Requires 4 Pieces	

L1MZ-6L612-B	1	Left Catalytic Converter Gasket (3.0L)	1	1	
W719698-S900	2	Catalytic Converter Studs (3.0L)	1	2	
W714265-S442	1	Left And Right Catalytic Converter Nuts (3.3L 10R80)	4	4	
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray			
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid			
5L3Z-19A506-A	As Needed	Slip Yoke Grease (Chassis Lubrication Grease)			
XG-11	As Needed	Motorcraft® High Temperature 4X4 Front Axle and Wheel Bearing Grease			
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (All Markets Except Canada)			Transfer Case Fluid
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (Canada Only)			Transfer Case Fluid
XG-1-E1	As Needed	Motorcraft® Premium Long-Life Grease			

Parts - Explorer/Aviator Transmission Removal And Installation - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
5L7Z-7D285-A	If Needed	Transmission Fluid Cooler Tube Seals	2	2
5L7Z-7J324-A	If Needed	Transmission Fluid Cooler Tube Backing Rings	2	2
W525585-S300	If Needed	Engine Block Dowel Pins (3.0L)	1	2
W718758-S300	If Needed	Engine Block Dowel Pins (3.3L)	4	2
W716963-S900	If Needed	Left And Right Catalytic Converter Studs (3.3L)	4	4
L1MZ-4650-A	If Needed	Driveshaft Alignment Bushing	1	1
L1MZ-4782-A	If Needed	Flex Coupling	1	1
W717822-S439	If Needed	Driveshaft Center Bearing Bracket Bolts	4	2
L1MZ-3B498-F	If Needed	Rear Axle Pinion Stem Circlip	1	1

Quantity refers to the amount of the service part number package(s) 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: Information Only.

Repair/Claim Coding

Causal Part:	IN
Condition Code:	42

Service Procedure

NOTE: This article is for information only. Determine the causal part number and use available labor times in Section 7 of the Service Labor Time Standards (SLTS) Manual or claim M-time in accordance with the Warranty and Policy Manual. Causal part number IN in this article refers to the information only status and is not able to be claimed.

PCM/TCM Software

1. Using the latest software level of the appropriate Ford diagnostic scan tool, check for later PCM/TCM software version.
2. Is a later software version available?
 - (1). Yes - reprogram the PCM/TCM to the latest software. Perform the adaptive learning drive cycle. Refer to Workshop Manual (WSM), Section 307-01.
 - (2). No - proceed to Step 4.
3. Does the vehicle still exhibit the condition after reprogramming the TCM/PCM and performing the adaptive learning drive cycle?
 - (1). Yes - proceed to Step 4.
 - (2). No - repair is complete.

NOTE: Advise the customer that this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a relearning process. This relearning process may result in firmer than normal upshifts and downshifts for several days.

4. Are any of the following DTCs present: P0751, P0752, P0756, P0757, P0761, P0762, P0766, P0767, P0771, P0772, P2700, P2701, P2702, P2703, P2704, P2705, P2707, P2708, P0729, P0731, P0732, P0733, P0734, P0735, P0736, P076F, P07D9, P07F6 and/or P07F7?
 - (1). Yes - proceed to Sticking Valves – Main Control Valve Body, Step 2.
 - (2). No, vehicles built on or before 1-Nov-2021 - proceed to Transmission Solenoid Strategy, Step 1.
 - (3). No, vehicles built after 1-Nov-2021 - proceed to Sticky Valves - Main Control Valve Body, Step 1.

Transmission Solenoid Strategy

1. Reprogram the transmission strategy download into the PCM/TCM. Refer to WSM, Section 307-01.

NOTE: When prompted, select Transmission Replacement (Full Assembly) only and re-enter the production transmission serial information on the side of the transmission.

2. Perform the adaptive learning drive cycle. Refer to WSM, Section 307-01.

3. Does the vehicle still exhibit the condition after performing the adaptive learning drive?

- (1). Yes - proceed to Sticking Valves – Main Control Valve Body, Step 1.
- (2). No - repair is complete.

NOTE: Advise the customer that this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a relearning process. This relearning process may result in firmer than normal upshifts and downshifts for several days.

Sticking Valves - Main Control Valve Body

1. Determine the appropriate clutch(s) to be cycled related to the symptoms present. Refer to WSM, Section 307-01. Proceed to Step 3.
2. Determine the appropriate clutch(s) to be cycled related to DTCs present. Refer to WSM, Section 307-01.
3. Record and clear all DTCs present before performing the PCM – Transmission Accelerated Main Control Break In routine.



CAUTION: Failure to use a frame engaging lift could damage the vehicle.

4. Prepare vehicle for the PCM - Transmission Accelerated Main Control Break In routine by positioning on a frame-engaging lift with wheels off the ground to prevent vehicle movement.
5. Using the Ford Diagnosis and Repair System (FDRS), perform the PCM - Transmission Accelerated Main Control Break In routine 3 times on the appropriate clutch(s) determined to be cycled.
6. Perform the adaptive learning drive cycle. Refer to WSM, Section 307-01.
7. Does the vehicle still exhibit the condition after performing the PCM - Transmission Accelerated Main Control Break In routine and adaptive learning drive cycle?
 - (1). Yes - proceed to Step 8.
 - (2). No - repair is complete.

NOTE: Advise the customer that this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a relearning process. This relearning process may result in firmer than normal upshifts and downshifts for several days.

8. Overhaul (clean and inspect) the main control valve body and road test vehicle following the adaptive learning drive cycle. Refer to WSM, Section 307-01.
9. Does the vehicle still exhibit the condition after overhauling the main control valve body and performing an adaptive learning drive cycle?
 - (1). Yes, vehicles built on or before 15-Aug-2022 - proceed to CDF Clutch Cylinder Replacement, Step 1.
 - (2). Yes, vehicles built on or after 16-Aug-2022 - this TSB is complete. Refer to WSM, Section 307-01 for normal diagnostics.
 - (3). No - repair is complete.

NOTE: Advise the customer that this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a relearning process. This relearning process may result in firmer than normal upshifts and downshifts for several days.

CDF Clutch Cylinder Replacement

NOTE: For Mexico, U.S. and Canadian vehicles less than 3 years old and has less than 36,000 miles the dealer has the option to continue with this TSB repair or replace the transmission under the low time in service (LTIS) policy.

1. Remove the transmission and mount the transmission to the bench. Refer to WSM, Section 307-01.
2. Disassemble the transmission. Perform only the necessary steps to remove the clutch and planetary assembly from the transmission case. Refer to WSM, Section 307-01.
 - (1). It is only necessary to remove the torque converter or the hybrid drive unit, transmission fluid pan and gasket, transmission fluid auxiliary pump (if equipped), fluid filter and main control valve body assembly, all 4 speed sensors (intermediate speed sensor A [ISSA], intermediate speed sensor B [ISSB], turbine shaft speed [TSS] and output shaft speed [OSS]), transmission fluid pump, front support assembly and the clutch and planetary assembly. Refer to WSM, Section 307-01.
3. Disassemble the clutch and planetary assembly. Perform only the necessary steps to remove the CDF clutch cylinder and the No. 3 sun gear shaft and No. 2 ring gear assembly from the clutch and planetary assembly. Refer to WSM, Section 307-01.
 - (1). It is only necessary to remove the A clutch assembly, the selective shim and T3 thrust bearing, remove and discard the 5-input shaft front seals.
 - (2). Remove the No. 1 planetary carrier snap ring, clutch, and planetary container cylinder, the E clutch and input shaft assembly, the No. 3 planetary carrier and No. 3 sun gear, the No. 3 sun gear shaft and No. 2 ring gear assembly. Refer to WSM, Section 307-01.
4. Remove and discard the sun gear No. 3 shaft seals. Install the 4 new sun gear No. 3 shaft seals. Refer to WSM, Section 307-01.
5. Disassemble the C, D and F clutch assemblies from the CDF cylinder. Discard the CDF cylinder. Refer to WSM, Section 307-01.
6. Assemble the C, D and F clutch assemblies into the new CDF clutch cylinder. Refer to WSM, Section 307-01.
7. Perform the C, D and F clutch pack endplay measurements for proper clearance. Refer to WSM, Section 307-01.
8. Remove and discard the input shaft-to-sun gear No. 3 shaft seals. Install the 5 new input shaft-to-sun gear No. 3 shaft seals. Refer to WSM, Section 307-01.
9. Remove and discard the input shaft seal. Install the new input shaft seal. Refer to WSM, Section 307-01.
10. Install the 5 new input shaft front seals. Refer to WSM, Section 307-01.
11. To reassemble the clutch and planetary assembly, reverse the disassembly procedure. Refer to WSM, Section 307-01.
12. Perform the T3 thrust bearing measurement to set transmission front end clearance. Refer to WSM, Section 307-01.
13. Reassemble the transmission. Refer to WSM, Section 307-01.
14. Install the transmission. Refer to WSM, Section 307-01.
15. Perform an adaptive learning drive cycle. Refer to WSM, Section 307-01.

NOTE: Advise the customer that this vehicle is equipped with an adaptive transmission shift strategy which allows the vehicle's computer to learn the transmission's unique parameters and improve shift quality. When the adaptive strategy is reset, the computer will begin a relearning process. This relearning process may result in firmer than normal upshifts and downshifts for several days.

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.