



TECHNICAL SERVICE BULLETIN

Harsh Shifts Between 3rd And 5th Gears And/Or Harsh Reverse Engagement, Symptoms Worse When Cold

26-2241
15 May 2026

This bulletin supersedes 25-2587. Reason for update: update the Parts list to add the F-clutch friction plates HL3Z-7B164-D and the F-clutch steel plates PR3Z-7B164-A for the proper vehicle lines, replace the transfer case mounting bolt part number from W714288-S438 to W714288-S437, update the part number W720688-S439 quantity from 2 to 1, update the part number ML3Z-7869-C claim quantity from 2 to 1 (only if necessary), update the description of CXT-10-LV6 and XT-10-QLVC by adding "transfer case fluid, 4WD only", move HL3Z-7A191-B and L1MZ-7F396-A fluid pan gaskets to the parts to inspect and replace list, and remove TL1Z-6775-A self adhesive heat shield from the F-150/Expedition/Navigator parts list as it is not a discard item.

Model:

Ford 2022-2024 Expedition	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80
2022-2024 Explorer	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80 / 10R80 MHT
2022-2024 F-150	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80 / 10R80 MHT
2022-2024 Mustang	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80
2022-2023 Ranger	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80
2022-2024 Transit	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80
Lincoln 2022-2023 Aviator	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80 / 10R80 MHT
2022-2024 Navigator	Built on 16-Aug-2022 and through 23-Sep-2024 Transmission: 10R80

Markets: North American markets only

Issue: Some of the vehicles listed in the Model statement above may exhibit at least one of the following conditions:

- Harsh 3-4, 4-5 upshifts
- Harsh 5-3, 4-3 downshifts
- Harsh reverse engagements

These symptoms may be worse when cold. This may be due to the F clutch friction plates brinelling into the clutch and planetary container cylinder (7B177).

Action: For vehicles that meet all of the criteria in the Issue and Model statements, follow the Service Procedure to replace the F clutch steel plates, the F clutch friction plates and the clutch and planetary container cylinder (7B177).

Parts - All Vehicles - Clutch And Planetary Assembly Cylinder

Service Part Number	Claim Quantity	Description	Note
PC3Z-7B177-A	1	Clutch And Planetary Container Cylinder	
HL3Z-7B164-D	4	F Clutch Friction Plates	All Vehicles Except 2023-2024 Transit, 2024 F-150
PR3Z-7E313-A	4	F Clutch Friction Plates	2023-2024 Transit, 2024 F-150

HL3Z-7B164-G	4	F Clutch Steel Plates	All Vehicles Except 2024 Mustang, 5.0L
PR3Z-7B164-A	4	F Clutch Steel Plates	2024 Mustang, 5.0L
HL3Z-7A248-A	1	Torque Converter Hub Seal	10R80
HL3Z-7A248-G	1	Front Support To Case Seal	10R80
HL3Z-7B399-C	4	Sun Gear No. 3 Shaft Seals (F7)	
LC3Z-7H223-AA	12	Front Support Bolt Seals	10R80
HL3Z-7G091-C	1	Input Shaft Seal (F9)	
HL3Z-7G091-F	5	Input Shaft Seals (F2)	
HL3Z-7G091-G	5	Input Shaft To Sun Gear No. 3 Shaft Seals (F8)	
HL3Z-7G199-A	1	Auxiliary Pump Tube Seal	Non Hybrid Vehicles, Equipped With Auto Start/Stop
JL1Z-7N134-A	1	Park Override Lever Bolt (If Equipped)	
W712658-S439	2	Solenoid Retaining Plate Bolts	
HL3Z-7G007-A	6	Shift Solenoid Retainers	
CPM-4-A	As Needed	Motorcraft® Brake Parts Cleaner - Low VOC Compliant	Canada Only
PM-4-A	As Needed	Motorcraft® Brake Parts Cleaner - Low VOC Compliant	All Markets Except Canada
PM-4-B	As Needed	Motorcraft® Brake Parts Cleaner - High VOC Compliant	All Markets Except Canada
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray	All Markets
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid	All Markets

Parts - All Vehicles - Clutch And Planetary Assembly Cylinder - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description	Note
HL3Z-7A098-A	Only If Necessary (Up To 1)	Fluid Filter	Expedition/Navigator/Mustang/Ranger/Explorer/F-150 Non-Hybrid
HL3Z-7A191-B	Only If Necessary (Up To 1)	Fluid Pan Gasket	10R80
7T4Z-7Z302-A	Only If Necessary (Up To 1)	Fluid Filter Seal	
HL3Z-7J227-A	Only If Necessary (Up To 1)	Auxiliary Pump Tube O-ring	10R80
L1MZ-7F396-A	Only If Necessary (Up To 1)	Fluid Pan Gasket	10R80 MHT
HL3Z-7B066-A	Only If Necessary (Up To 1)	F Clutch Pressure Plate	
L1MZ-7A098-B	Only If Necessary (Up To 1)	Fluid Filter	10R80 MHT
LK4Z-7G186-B	Only If Necessary (Up To 1)	Fluid Filter	Transit Vehicles

Parts - All Vehicles - Select One Of The Following If Needed

Service Part Number	Claim Quantity	Description

HL3Z-7H365-C	1	F Clutch Snap Ring 1.5 mm Selective
HL3Z-7H365-D	1	F Clutch Snap Ring 1.7 mm Selective
HL3Z-7H365-E	1	F Clutch Snap Ring 1.9 mm Selective
HL3Z-7H365-F	1	F Clutch Snap Ring 2.1 mm Selective
HL3Z-7H365-G	1	F Clutch Snap Ring 2.3 mm Selective

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

Service Part Number	Claim Quantity	Description	Note
HL3Z-7Z490-E	Only If Necessary (Up To 1)	Valve Body Channel Plate	
JL3Z-7Z490-F	Only If Necessary (Up To 1)	Valve Body Separator Plate	Ranger
L1MZ-7Z490-F	Only If Necessary (Up To 1)	Valve Body Separator Plate	Transit/Explorer, 10R80/ 2024 Mustang
L1MZ-7Z490-N	Only If Necessary (Up To 1)	Valve Body Separator Plate	Explorer (Non-Police Interceptor) , 10R80 MHT
L1MZ-7Z490-P	Only If Necessary (Up To 1)	Valve Body Separator Plate	Explorer Police Interceptor, 10R80MHT
L1MZ-7Z490-M	Only If Necessary (Up To 1)	Valve Body Separator Plate	F-150/Expedition/Navigator, 10R80
L1MZ-7Z490-J	Only If Necessary (Up To 1)	Valve Body Separator Plate	2022-2023 Mustang
ML3Z-7Z490-C	Only If Necessary (Up To 1)	Valve Body Separator Plate	F-150, 10R80 MHT

Parts - Additional Parts For F-150

Service Part Number	Claim Quantity	Description	Note
N800594-S100	4 Or 8 Pieces (Flange Dependent)	Driveshaft Flange To Flange Bolts	8 Pieces For 4 Bolt Style Transmission Yoke
PL3Z-5C226-A	1 piece required for 10R80 MHT, 2 pieces required for 10R80	Exhaust Gasket	2.7/3.5L Engine
RL3Z-6L612-B	1	Exhaust Manifold Gasket	10R80 MHT
W722614-S900	2	Catalytic Converter Bolts	2024 F-150, 2.7L Engine
W520514-S440	2 pieces required for 2.7L engine, 4 pieces required for 3.5L/5.0L engine	Catalytic Converter Nuts	All 2022-2023 F150, 2024 F-150 With 5.0L Engine
W705443-S900	4	Catalytic Converter Nuts	2024 F-150, 2.7L/3.5L Engine
W721940-S900	2	LH Exhaust Studs	2024 F-150, 2.7L Engine
W722770-S900	2	LH Exhaust Studs	2024 F-150, 3.5L Engine
W714717-S439	2	Muffler Inlet Pipe Bolts	F-150, 5.2L Engine, 10R80 MHT
W520113-S440	4	Stabalizer Bar Bracket Nuts	

W709771-S440	2	Transmission Mount Nuts	
W711140-S901	3	Transmission Support Insulator Bolts	RWD Vehicles, 10R80
W500120-S439	4	Transmission Support Insulator Bolts	RWD Vehicles, 10R80MHT
W718353-S900	4	Transmission Support Insulator Bolts	4WD Vehicles, 10R80
W718926-S900	4	Transmission Support Insulator Bolts	4WD Vehicles, 10R80MHT
W714418-S439	4	Transmission Support Crossmember Bolts	
W520114-S442	4	Transmission Support Crossmember Nuts	
W715579-S439	2	Driveshaft Center Bearing Bolt	For Vehicles Equipped With Two Piece Driveshaft
W715618-S437	4	Torque Converter Nuts	
W715798-S442	1	Transmission Fluid Cooler Tube Bracket Studbolt	5.2L/3.5L Engine
W718396-S439	4	Skid Plate Nuts (If Equipped)	
W716375-S900	9 pieces required for 10R80, 12 pieces required for 10R80MHT	Transfer Case And Vibration Damper Bolts	4WD Vehicles Only
7L1Z-4B496-C	2	CV Joint To Pinion Flange Bolts And Retaining Straps	4WD Vehicles Only
ML3Z-3B478-B	1	Front Driveshaft Slip Yoke Boot Clamp	4WD Vehicles Only
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	All Markets
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)	Transfer Case Fluid, 4WD Only
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)	Transfer Case Fluid, 4WD Only
TA-24-B	As Needed	Motorcraft® Thread Sealant With PTFE	All Markets, 4WD Vehicles Only

Parts - F-150 - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description	Note
5L7Z-7D285-A	Only If Necessary (Up To 2)	Fluid Tube Seals	5.2L/3.5L Engine
5L7Z-7J324-A	Only If Necessary (Up To 2)	Fluid Tube Backing Rings	5.2L/3.5L Engine
ML3Z-4421-A	Only If Necessary (Up To 1)	Front Driveshaft Slip Yoke Boot	
ML3Z-3B478-A	Only If Necessary (Up To 1)	Front Driveshaft Slip Yoke Boot Clamp	
ML3Z-7869-C	Only If Necessary (Up To 1)	Transmission Fluid Heat Exchanger	

W701228-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	5.0L Engine
F2AZ-6397-A	Only If Necessary (Up To 2)	Engine Block Dowel Pins	5.2L Engine
W718758-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	2.7/3.5L Engine
W707753-S900	Only If Necessary (Up To 4)	Exhaust Studs	
ML3Z-7A191-A	Only If Necessary (Up To 1)	Hybrid Drive Unit Gasket	10R80 MHT

Parts - Additional Parts Needed For Explorer/Aviator/F150 - 10R80 MHT - Hybrid vehicles

Service Part Number	Claim Quantity	Description
BL8Z-7G199-A	2	Hybrid Drive Unit Feed Tube Seals
L1MZ-7J135-A	1	Auxiliary Pump Filter Seal
L1MZ-7N265-A	2	Fluid Pan To Case Seals

Parts - Additional Parts For Expedition/Navigator

Service Part Number	Claim Quantity	Description	Note
W520514-S440	4	Catalytic Converter Flange Nuts	
PL3Z-5C226-A	2	Exhaust Gasket	
W520113-S440	4	Stabalizer Bar Bracket Nuts	
N811880-S100	4 or 8 pieces (flange dependent)	Driveshaft Flange To Flange Bolts	
W714682-S442	1	Driveshaft Center Bearing Nut	For Vehicles Equipped With Two Piece Driveshaft
W718772-S439	1	Driveshaft Center Bearing Bolt	For Vehicles Equipped With Two Piece Driveshaft
W719738-S439	1	Driveshaft Center Bearing Bracket Mounting Stud	For Vehicles Equipped With Two Piece Driveshaft
W709771-S440	2	Transmission Mount Nuts	
W711140-S901	3	Transmission Insulator Bolts And Washers	RWD Vehicles Only
W718353-S900	4	Transmission Insulator Bolts	4WD Vehicles Only
W714418-S439	4	Transmission Support Crossmember Bolts	
W520114-S442	4	Transmission Support Crossmember Nuts	
W715618-S437	4	Torque Converter Nuts	
W720882-S442	1	Transmission Fluid Heat Exchanger Bolt	
7L1Z-4B496-C	2	CV Joint To Pinion Flange Bolts And Retaining Straps	4WD Vehicles Only
ML3Z-3B478-B	1	Front Driveshaft Slip Yoke Boot Clamp	4WD Vehicles Only
W716375-S900	9	Transfer Case Bolts	4WD Vehicles Only
TA-24-B	As Needed	Motorcraft® Thread Sealant With PTFE	All Markets, 4WD Vehicles Only

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	All Markets
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)	Transfer Case Fluid, 4WD Only
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)	Transfer Case Fluid, 4WD Only

Parts - Expedition/Navigator - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description
ML3Z-4421-A	Only If Necessary (Up To 1)	Front Driveshaft Slip Yoke Boot
ML3Z-3B478-A	Only If Necessary (Up To 1)	Front Driveshaft Slip Yoke Boot Clamp
ML3Z-7869-C	Only If Necessary (Up To 1)	Transmission Fluid Heat Exchanger
W718758-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins

Parts - Additional Parts For Mustang

Service Part Number	Claim Quantity	Description	Note
BR3Z-5B266-A	1	Exhaust Gasket	5.0L Engine
W705443-S900	2	Catalytic Converter Flange Nuts	
FR3Z-4B496-B	3	Driveshaft To Pinion Flange Bolts	
W717822-S439	2	Driveshaft Center To Bearing Bolts	
W710726-S437	3	Driveshaft To Transmission Flange Bolts	2.3L Engine
N800594-S101	4	Driveshaft To Transmission Flange Bolts	5.0L Engine
W710726-S437	2	Selector Lever Cable Bracket Bolts	
W715618-S437	4 pieces required (5.0L), 6 pieces required (2.3L)	Torque Converter Nuts	
W712334-S440	4	Strut Tower Cross Brace Nuts	2022-2023 Mustang, 5.0L Engine
W707654-S450	4	Strut Tower Cross Brace Nuts	2024 Mustang, 5.0L Engine
XL-1	As Needed	Motorcraft® Penetrating and Lock Lubricant	All Markets
XL-2	As Needed	Motorcraft® High Temperature Nickel Anti-Seize Lubricant	All Markets

Parts - Mustang - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description	Note
JL3Z-9439-A	Only If Necessary (Up To 8)	Intake Manifold Gasket	5.0L Engine
JR3Z-4782-A	Only If Necessary (Up To 1)	Flex Coupling	2.3L Engine
W500545-S439	Only If Necessary (Up To 3)	Driveshaft To Flex Coupling Bolts	2.3L Engine

W701183-S1300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	2022-2023 Mustang, 2.3L Engine
W716841-S900	Only If Necessary (Up To 2)	Engine Block Dowel Pins	2024 Mustang, 2.3L Engine
W701228-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	2022-2023 Mustang, 5.0L Engine
LJ9Z-7J227-A	Only If Necessary (Up To 4)	Transmission Fluid Cooler O-Ring Seals	
5L7Z-7D285-A	Only If Necessary (Up To 2)	Transmission Fluid Cooler Tube Seals	2022-2023 Mustang
5L7Z-7J324-A	Only If Necessary (Up To 2)	Transmission Fluid Cooler Tube Backing Rings	2022-2023 Mustang

Parts - Additional Parts For Transit

Service Part Number	Claim Quantity	Description	Note
KK2Z-00811-A	2	Wheel Hub Nut	
W500463-S442	4	Brake Caliper Anchor Plate Bolts	
W520514-S440	4	Catalytic Converter Flange Nuts	
W505434-S439	4	Lower Load Push Bar Bolts	
W506434-S439	8	Lower Load Push Bar Bolts	
W520215-S442	4	Tie Rod End Nuts, Front Subframe Forward Nuts	
W711076-S442	2	Lower Ball Joint Nut	
W712503-S440	2	Front Stabilizer Bar Link Rod Nuts	
W709176-S300	2	Splash Shield Push Pins	
W709653-S303	8	Muffler/Front Floor Heat Shield Rivets	
W711137-S442	1	Steering Column Shaft Bolt	
N800594-S100	4 or 8 pieces (flange dependent)	Driveshaft Flange To Flange Bolts	8 pieces For 4 Bolt Style Transmission Yoke
W505264-S442	2	Driveshaft Safety Strap Bolts (If Equipped)	
W713078-S439	2 pieces required for medium wheelbase, 4 pieces required for long wheelbase	Driveshaft Center Bearing Bolts	
W710660-S441	2	Transmission Support Insulator Nuts	
W716331-S439	4	Transmission Crossmember Bolts	
W718943-S439	2	Front Subframe Rearward Bolts	

W715618-S437	4	Torque Converter Nuts	
W719972-S439	3	Front Axle To Torque Arm Bolts	4WD Vehicles Only
W720688-S439	1	Front Axle To Transmission Bolts	4WD Vehicles Only
W719976-S439	3	Front Axle Tube Bolts/Front Axle To Transmission Bolts	4WD Vehicles Only
W714288-S437	8	Transfer Case Mounting Bolts	4WD Vehicles Only
LK4Z-00815-A	1	LH Halfshaft O-Ring Oil Seal	4WD Vehicles Only
LK4Z-3B498-A	1	LH Halfshaft Snap-Ring Circlip	4WD Vehicles Only
LK4Z-4B496-A	3	Front Driveshaft CV Joint-to-Pinion Flange Cup Bolts And Retaining Straps	4WD Vehicles Only
LK4Z-4B496-B	2	Rear Driveshaft CV Joint-to-Pinion Flange Cup Bolts And Retaining Straps	4WD Vehicles Only
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	All Markets
XL-1	As Needed	Motorcraft® Penetrating and Lock Lubricant	All Markets
XY-75W140-QL	As Needed	Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant	Front Drive Axle Fluid
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)	Transfer Case Fluid, 4WD Only
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)	Transfer Case Fluid, 4WD Only
XG-11	As Needed	Motorcraft® High Temperature 4x4 Front Axle and Wheel Bearing Grease	4WD Only

Parts - Transit - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description	Note
LJ9Z-7J227-A	Only If Necessary (Up To 4)	Transmission Fluid Cooler O-Ring Seals	
W715471-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	3.5L DOHC Engine
W718758-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	2.7/3.5L Engine
W719583-S900	Only If Necessary (Up To 4)	Catalytic Converter Studs	3.5L EcoBoost Engine
W720627-S900	Only If Necessary (Up To 4)	Catalytic Converter Studs	3.5L EcoBoost Engine

Parts - Additional Parts For Ranger

Service Part Number	Claim Quantity	Description	Note
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KB3Z-6L612-A	1	Catalytic Converter Gasket	
W714265-S442	3	Catalytic Converter Nuts	
W716936-S442	2	Stabilizer Bar Bracket Nuts	
W719427-S439	2	Stabilizer Bar Bracket Bolts	
W700056-S450B	2	Selector Lever Cable Bracket Bolts	
W710233-S437	4	Driveshaft Flange To Pinion Flange Bolts	
W716344-S437	4	Driveshaft Flange To Transmission Flange Bolts	
W714780-S439	4	Driveshaft Center Bearing Bolts	For Vehicles Equipped With Two Piece Driveshaft
W715618-S437	6	Torque Converter Nuts	
BE8Z-6731-AB	1	Engine Oil Filter	4WD Vehicles Only
JB3Z-4B496-B	3	CV Joint To Transfer Case & Pinion Flange Bolts & Retaining Straps	4WD Vehicles Only
W500121-S437	9	Transfer Case Bolts	4WD Vehicles Only
W500642-S437	4	Transmission Support Insulator Bolts	4WD Vehicles Only
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)	Transfer Case Fluid, 4WD Only
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)	Transfer Case Fluid, 4WD Only
CXO-5W30-LSP6	As Needed	Motorcraft® SAE 5W-30 Super Premium Motor Oil	Canada Only
XO-5W30-Q1SP	As Needed	Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil	All Markets Except Canada
PM-4-A	As Needed	Motorcraft® Brake Parts Cleaner (Not Compliant With Low Volatile Organic Compound Requirements)	All Markets Except Canada
XL-2	As Needed	Motorcraft® High Temperature Nickel Anti-Seize Lubricant	All Markets

Parts - Ranger - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description
JB3Z-7J227-A	Only If Necessary (Up To 4)	Transmission Fluid Cooler Tube Seals
W701183-S1300	Only If Necessary (Up To 2)	Engine Block Dowel Pins

Parts - Additional Parts For Explorer/Aviator

Service Part Number	Claim Quantity	Description	Note
L1MZ-6L612-B	1	Catalytic Converter Gasket	Explorer/Aviator, 3.0L Engine
W719699-S442	2	Catalytic Converter Nuts	Explorer/Aviator, 3.0L Engine
W714265-S442	4	Catalytic Converter Nuts	3.3L Engine
W520214-S440	1	Transmission Mount Nut	
W719431-S439	3	Transmission Mount Bolts	
W721083-S439	4	Transmission Crossmember Bolts	

W700714-S437	2	Selector Lever Cable Bracket Bolts	Explorer Police Interceptor Vehicles
W709653-S303	4	Plastic Skid Bar Rivets	Explorer Police Interceptor Vehicles
W715618-S437	6 pieces (3.0L engine), 4 pieces (All Other Variants)	Torque Converter Nuts	
W721084-S439	2	Rear Subframe Bolts	Explorer/Aviator, 3.0L Engine
W719413-S439	2	Middle Subframe Bolts	Explorer/Aviator, 3.0L Engine
W719511-S439	3	Driveshaft Flex Coupling To Transfer Case/Transmission Flange Bolts	
W717822-S439	2	Driveshaft Center Bearing Bracket Bolts	
W720545-S442	2	Transmission Cooler Tube Bracket Bolt	Explorer Police Interceptor
W715131-S442	2	Transmission Fluid Cooler Tube Bracket Bolt	Explorer (Except Police Interceptor)/Aviator, 3.3/3.0L Engine
W500213-S442	1	Park Manual Release Cable Bracket Bolt	Explorer/Aviator, 10R80 MHT
W716375-S900	8	Transfer Case Mounting Bolts	4WD Vehicles Only
L1MZ-3B478-A	1	Front Drive Shaft Boot Clamp	4WD Vehicles Only
L1MZ-4421-A	1	Front Drive Shaft Boot	4WD Vehicles Only
LB5Z-3B498-A	1	Front Axle Pinion Stem Circlip	4WD Vehicles Only
L1MZ-4A015-B	1	Front Axle Pinion Stem O-Ring	4WD Vehicles Only
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)	Transfer Case Fluid, 4WD Vehicles Only
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)	Transfer Case Fluid, 4WD Vehicles Only
XG-11	As Needed	Motorcraft® High Temperature 4x4 Front Axle and Wheel Bearing Grease	All Markets, 4WD Vehicles Only
5L3Z-19A506-A	As Needed	Slip Yoke Grease	
TA-29	As Needed	Motorcraft® Ultra Silicone Sealant	All Markets
XG-1-E1	As Needed	Motorcraft® Premium Long-Life Grease	All Markets
ZC-20	As Needed	Motorcraft® Engine Shampoo and Degreaser	All Markets
ZC-30-A	As Needed	Motorcraft® Silicone Gasket Remover	All Markets
ZC-31-B	As Needed	Motorcraft® Metal Surface Prep Wipes	All Markets

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

Service Part Number	Claim Quantity	Description	Note
5L7Z-7D285-A	Only If Necessary (Up To 2)	Transmission Fluid Cooler Tube Seals	

5L7Z-7J324-A	Only If Necessary (Up To 2)	Fluid Tube Backing Rings	
L1MZ-4782-A	Only If Necessary (Up To 1)	Flex Coupling Bolts	
W719511-S439	Only If Necessary (Up To 3)	Flex Coupling Bolts	
L1MZ-4650-A	Only If Necessary (Up To 1)	Driveshaft Alignment Bushing	
ML3Z-7A191-A	Only If Necessary (Up To 1)	Hybrid Drive Unit Gasket	10R80 MHT
W525585-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	3.0L Engine
W718758-S300	Only If Necessary (Up To 2)	Engine Block Dowel Pins	3.3L Engine
W716963-S900	Only If Necessary (Up To 4)	Catalytic Converter Studs	3.3L Engine
W719698-S900	Only If Necessary (Up To 2)	Catalytic Converter Studs	3.0L Engine

Claim Quantity refers to the total number of individual pieces required to repair the vehicle. This may differ from the number of service part number packages due to the unit of issue (UOI).

As Needed indicates the part is necessary but 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.

Only If Necessary indicates the part is not mandatory. Refer to the Service Procedure to determine the inspection/inclusion criteria.

Warranty Status: Warranty coverage limits and policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

Labor Times

Description	Operation No.	Time
2022-2024 Explorer 3.3L 4WD Hybrid: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241A	2.3 Hrs
2022-2024 Explorer 3.3L 4WD Hybrid: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241B	13.9 Hrs
2022-2023 Explorer 3.3L RWD Hybrid: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241C	2.3 Hrs
2022-2023 Explorer 3.3L RWD Hybrid: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241D	13.2 Hrs
2022-2024 Explorer 4WD 3.0L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241E	2.6 Hrs
2022-2024 Explorer 4WD 3.0L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241F	11.1 Hrs
2022-2024 Explorer 4WD 3.3L TiVCT: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241G	2.6 Hrs
2022-2024 Explorer 4WD 3.3L TiVCT: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241H	12.3 Hrs
2022-2023 Ranger 4X2: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241J	2.0 Hrs
2022-2023 Ranger 4X2: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241K	11.8 Hrs
2022-2023 Ranger 4X4: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241L	2.0 Hrs
2022-2023 Ranger 4X4: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241M	12.9 Hrs
2022-2024 Transit 3.5L TiVCT RWD: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241N	4.1 Hrs
2022-2024 Transit 3.5L TiVCT RWD: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241P	11.2 Hrs

2022-2024 Transit 3.5L TiVCT AWD: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241Q	4.1 Hrs
2022-2024 Transit 3.5L TiVCT AWD: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241R	13.0 Hrs
2022-2024 Transit 3.5L EcoBoost RWD: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241S	4.1 Hrs
2022-2024 Transit 3.5L EcoBoost RWD: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241T	11.1 Hrs
2022-2024 Transit 3.5L EcoBoost AWD: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241U	4.1 Hrs
2022-2024 Transit 3.5L EcoBoost AWD: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241V	12.7 Hrs
2022-2024 Transit AWD/RWD: Additional Time To Remove And Install Running Boards If Equipped (Can Be Claimed With Operations N-V)	262241W	0.3 Hrs
2022-2024 Transit AWD/RWD: Additional Time To Check And Correct Front Toe (Can Be Claimed With Operation P, R, T, Or V)	262241X	1.0 Hrs
2022-2024 Transit AWD/RWD With Lane Departure Warning: Additional Time To Check And Correct Front Toe Includes Extra Time To Align LDW Camera System (Can Be Claimed With Operations P, R, T, Or V)	262241Y	1.4 Hrs
2022-2023 Mustang Convertible 2.3L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241AA	2.7 Hrs
2022-2023 Mustang Convertible 2.3L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241BB	11.1 Hrs
2022-2024 Mustang Coupe 2.3L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241CC	2.7 Hrs
2022-2024 Mustang Coupe 2.3L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241DD	10.4 Hrs
2022-2024 Mustang Convertible 5.0L: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241EE	3.1 Hrs
2022-2024 Mustang Convertible 5.0L: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241FF	13.4 Hrs
2022-2024 Mustang Coupe 5.0L: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241GG	3.1 Hrs
2022-2024 Mustang Coupe 5.0L: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241HH	12.7 Hrs
2022-2024 Expedition 4X2: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241JJ	2.2 Hrs
2022-2024 Expedition 4X2: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241KK	10.4 Hrs
2022-2024 Expedition 4X4: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241LL	2.2 Hrs
2022-2024 Expedition 4X4: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241MM	11.6 Hrs
2022-2023 Navigator 4X2: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241NN	2.2 Hrs
2022-2023 Navigator 4X2: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241PP	10.7 Hrs
2022-2024 Navigator 4X4: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241QQ	2.2 Hrs
2022-2024 Navigator 4X4: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241RR	11.8 Hrs

2023-2024 F-150 4X4 Raptor 5.2L Predator: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241SS	2.3 Hrs
2023-2024 F-150 4X4 Raptor 5.2L Predator: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241TT	12.4 Hrs
2022-2024 F-150 4X2 2.7L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241UU	2.3 Hrs
2022-2024 F-150 4X2 2.7L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241VV	11.5 Hrs
2022-2024 F-150 4X4 2.7L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241WW	2.3 Hrs
2022-2024 F-150 4X4 2.7L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241XX	12.9 Hrs
2022-2023 F-150 4X2 3.3L Duratec: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241YY	2.3 Hrs
2022-2023 F-150 4X2 3.3L Duratec: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241ZZ	10.6 Hrs
2022-2023 F-150 4X4 3.3L Duratec: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241B1	2.3 Hrs
2022-2023 F-150 4X4 3.3L Duratec: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241B2	11.9 Hrs
2022-2024 F-150 4X2 3.5L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241B3	2.3 Hrs
2022-2024 F-150 4X2 3.5L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241B4	11.2 Hrs
2022-2024 F-150 4X4 3.5L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241B5	2.3 Hrs
2022-2024 F-150 4X4 3.5L EcoBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241C1	12.5 Hrs
2022-2023 F-150 4X2 3.5L PowerBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241C2	5.0 Hrs
2022-2023 F-150 4X2 3.5L PowerBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241C3	14.1 Hrs
2022-2024 F-150 4X4 3.5L PowerBoost: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241C4	5.0 Hrs
2022-2024 F-150 4X4 3.5L PowerBoost: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241C5	15.1 Hrs
2022-2024 F-150 4X2 5.0L TiVCT: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241D1	2.3 Hrs
2022-2024 F-150 4X2 5.0L TiVCT: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241D2	10.7 Hrs
2022-2024 F-150 4X4 5.0L TiVCT: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241D3	2.3 Hrs
2022-2024 F-150 4X4 5.0L TiVCT: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241D4	11.8 Hrs
2022-2023 Aviator AWD 3.0L Hybrid: Check Build Date, Remove And Inspect Fluid Filter (PASS)	262241D5	2.3 Hrs
2022-2023 Aviator AWD 3.0L Hybrid: Check Build Date, Remove And Inspect Fluid Filter (FAIL) Overhaul Valve Body And Replace F Clutch	262241E1	13.2 Hrs

Repair/Claim Coding

Causal Part:	7B177
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Service Procedure

1. Remove the transmission fluid filter. Refer to WSM, Section 307-01.
2. Inspect the top side of the transmission fluid filter for gray silt. (Figure 1).

Figure 1



3. Is there gray silt present on the top side of the transmission fluid filter as shown in Figure 1?

(1). Yes - proceed to Step 4.

(2). No - this article does not apply. Refer to WSM, Section 307-01 for normal diagnostics.

4. Install the transmission fluid pan and bolts.

NOTE: It is not necessary to torque transmission fluid pan bolts at this time.

5. Remove the transmission and mount the transmission to the bench. Refer to WSM, Section 307-01.

6. Remove the main control valve body. Refer to WSM, Section 307-01.

7. Overhaul (clean and inspect) the main control valve body. Refer to WSM, Section 307-01.

8. 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.

NOTE: The transmission in vehicles built on or after 16-Aug-2022 are equipped with an upgraded CDF clutch cylinder (7H351), and do not require replacement.

- (1). It is only necessary to remove the transmission fluid pan, transmission fluid pump, transmission fluid auxiliary pump (if equipped), all 4 speed sensors (intermediate speed sensor A [ISSA], intermediate speed sensor B [ISSB], TSS and OSS), torque converter or hybrid drive unit (HDU), front support assembly and the clutch and planetary assembly. Refer to WSM, Section 307-01.
9. Disassemble the clutch and planetary assembly. Perform only the necessary steps to remove the clutch and planetary container cylinder, 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 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 and remove the clutch and planetary container cylinder. Remove the No. 4 ring gear snap ring and the No. 4 ring gear from the clutch and planetary container cylinder. Discard the clutch and planetary container cylinder. Refer to WSM, Section 307-01.
 - (3). Remove 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.
10. Remove and discard the sun gear No. 3 shaft seals. Refer to WSM, Section 307-01.
11. Install the 4 new sun gear No. 3 shaft seals. Refer to WSM, Section 307-01.
12. Remove and discard the F clutch steel plates and friction plates from the CDF cylinder. Refer to WSM, Section 307-01.
13. Install new F clutch steel plates and friction plates into the CDF clutch cylinder. Refer to WSM, Section 307-01.
14. Perform the F clutch pack endplay measurement for proper clearance. Refer to WSM, Section 307-01.
15. Remove and discard the input shaft-to-sun gear No. 3 shaft seals. Refer to WSM, Section 307-01.
16. Install the 5 new input shaft-to-sun gear No. 3 shaft seals. Refer to WSM, Section 307-01.
17. Remove and discard the input shaft Teflon seal. WSM, Section 307-01.
18. Install the new input shaft Teflon seal. Refer to WSM, Section 307-01.
19. Install the 5 new input shaft front seals. Refer to WSM, Section 307-01.
20. Install the No. 4 ring gear and snap ring into a new clutch and planetary container cylinder. Refer to WSM, Section 307-01.
21. To reassemble the clutch and planetary assembly, reverse the disassembly procedure. Refer to WSM, Section 307-01.
22. Reassemble the transmission. Refer to WSM, Section 307-01.
23. Install the transmission. Refer to WSM, Section 307-01.
24. 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.

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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.