



TECHNICAL SERVICE BULLETIN

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

24-2101

28 March
2024

This bulletin supersedes 24-2046. Reason for update: revise the Service Procedure LTIS statement

Model:

Ford 2018-2021 Expedition	Transmission/Transaxle: 10R80
2017-2020 F-150	Transmission/Transaxle: 10R80
2018-2021 Mustang	Transmission/Transaxle: 10R80
2019-2023 Ranger	Transmission/Transaxle: 10R80
Lincoln 2018-2021 Navigator	Transmission/Transaxle: 10R80

Markets: Published by Ford North America

Issue: Some 2017-2020 F-150, 2018-2021 Expedition/Navigator/Mustang, 2019-2023 Ranger vehicles equipped with a 10R80 transmission may exhibit a harsh/delayed engagement and/or harsh/delayed shift, an illuminated MIL with 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 PCM or TCM. This may be due to 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.

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

- One of the following vehicles:
 - 2017-2020 F-150
 - 2018-2021 Expedition/Navigator/Mustang
 - 2019-2023 Ranger
- Equipped with a 10R80 transmission
- 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	Claim Quantity	Package Order Quantity	Number in Package	Description
W712658-S439	2	1	4	Solenoid Retaining Plate Bolt
HL3Z-7G007-A	6	6	1	Solenoid Retaining Clips
JL1Z-7N134-A	1	1	1	Park Override Bolt (Expedition/Navigator)
XT-12-QULV	As Needed	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	Claim Quantity	Package Order Quantity	Number in Package	Description
HL3Z-7A191-B	Only If Necessary	Only If Necessary	1	Fluid Pan Gasket
L1MZ-7A098-A	Only If Necessary	Only If Necessary	1	Fluid Filter (F-150/Expedition/Navigator/Mustang/Explorer)
HL3Z-7A098-A	Only If Necessary	Only If Necessary	1	Fluid Filter (Ranger)
7T4Z-7Z302-A	Only If Necessary	Only If Necessary	1	Transmission Fluid Filter Seal
HL3Z-7J227-A	Only If Necessary	Only If Necessary	1	Auxiliary Pump Tube O-ring (If Equipped)
HL3Z-7Z490-E	Only If Necessary	Only If Necessary	1	Chanel Plate
HL3Z-7Z490-D	Only If Necessary	Only If Necessary	1	Separator Plate (2017 F-150)
JL1Z-7Z490-C	Only If Necessary	Only If Necessary	1	Separator Plate (Expedition/Navigator With Electronic Gearshift)
JL3Z-7Z490-E	Only If Necessary	Only If Necessary	1	Separator Plate (Expedition/2018-2020 F-150 Without Electronic Gearshift, All Ranger)
JL3Z-7Z490-D	Only If Necessary	Only If Necessary	1	Separator Plate (Mustang Built On Or Before 3-Jan-2021)
L1MZ-7Z490-J	Only If Necessary	Only If Necessary	1	Separator Plate (Mustang Built On Or After 4-Jan-2021)

Parts - All Vehicles - CDF Cylinder Replacement

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
HL3Z-7G199-A	1	1	1	Auxiliary Pump Tube Seal (Stop/Start)
HL3Z-7A248-A	1	1	1	Torque Converter Seal
JL3Z-7N134-A	12	12	1	Front Support Bolts
LC3Z-7H223-A	12	12	1	Front Support Bolt Seals
HL3Z-7A248-G	1	1	1	Front Support To Case Seal
HL3Z-7G091-F	5	5	1	Input Shaft Seals (F2)
HL3Z-7B399-C	4	4	1	Sun Gear No. 3 Shaft Seals (F7)
HL3Z-7C099-A	1	1	1	C Clutch Balance Dam Inner Seal
HL3Z-7A548-B	2	2	1	C Clutch Balance Dam And Piston Outer Seal
HL3Z-7D404-A	2	2	1	C And D Clutch Piston Inner Seals
HL3Z-7A262-C	1	1	1	D Clutch Balance Dam
HL3Z-7D403-A	1	1	1	D Clutch Piston Outer Seal
HL3Z-7A548-G	2	2	1	F Clutch Balance Dam And Piston Outer Seal
HL3Z-7A548-A	2	2	1	F Clutch Balance Dam And Piston Inner Seal
HL3Z-7G091-G	5	5	1	Input Shaft To Sun Gear No. 3 Shaft Seals (F8)
HL3Z-7G091-C	1	1	1	Input Shaft Seal (F9)

JL3Z-7H351-B	1	1	1	CDF Cylinder (F-150/Expedition/Navigator, 5.0L Mustang)
JR3Z-7H351-B	1	1	1	CDF Cylinder (Ranger/2.3L Mustang)

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

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
HL3Z-7B066-AB	Only If Necessary	Only If Necessary	1	A Clutch Pressure Plate
HL3Z-7B164-E	Only If Necessary	Only If Necessary	1	A Clutch Friction Plates
HL3Z-7F220-A	Only If Necessary	Only If Necessary	1	A Clutch Steel Plates
HL3Z-7B442-F	Only If Necessary (Ranger Has 4 Pieces, F-150/Mustang/Expedition/Navigator Have 5 Pieces)	Only If Necessary	1	C Clutch Steel Plates
HL3Z-7B164-A	Only If Necessary (Ranger Has 4 Pieces, F-150/Mustang/Expedition/Navigator Have 5 Pieces)	Only If Necessary	1	C Clutch Friction Plates
ML3Z-7B477-A	Only If Necessary	Only If Necessary	1	C Clutch Pressure Plate
HL3Z-7B442-D	Only If Necessary (Ranger Has 5 Pieces, F-150/Mustang/Expedition/Navigator Have 6 Pieces)	Only If Necessary	1	D Clutch Steel Plates
HL3Z-7B164-C	Only If Necessary (Ranger Has 5 Pieces, F-150/Mustang/Expedition/Navigator Have 6 Pieces)	Only If Necessary	1	D Clutch Friction Plates
HL3Z-7B066-E	Only If Necessary	Only If Necessary	1	D Clutch Pressure Plate
HL3Z-7B164-G	Only If Necessary (Ranger Has 3 Pieces, F-150/Mustang/Expedition/Navigator Have 4 Pieces)	Only If Necessary	1	F Clutch Steel Plates
HL3Z-7B164-D	Only If Necessary (Ranger Has 3 Pieces, F-150/Mustang/Expedition/Navigator Have 4 Pieces)	Only If Necessary	1	F Clutch Friction Plates
HL3Z-7B066-A	Only If Necessary	Only If Necessary	1	F Clutch Pressure Plate

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

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
HL3Z-7B066-AA	Only If Necessary	Only If Necessary	1	A Clutch Apply Plate 4.1 - 4.3 mm Selective
HL3Z-7B066-Z	Only If Necessary	Only If Necessary	1	A Clutch Apply Plate 4.4 - 4.6 mm Selective
HL3Z-7B066-Y	Only If Necessary	Only If Necessary	1	A Clutch Apply Plate 4.7 - 4.9 mm Selective
HL3Z-7B066-X	Only If Necessary	Only If Necessary	1	A Clutch Apply Plate 5.0 - 5.2 mm Selective
HL3Z-7B066-W	Only If Necessary	Only If Necessary	1	A Clutch Apply Plate 5.3 - 5.5 mm Selective
HL3Z-7H032-C	Only If Necessary	Only If Necessary	1	T-3 Bearing (Replace If T-3 Shim Is Replaced)
HL3Z-7A527-Q	Only If Necessary	Only If Necessary	1	T-3 Shim 3.05-3.15 mm Selective
HL3Z-7A527-P	Only If Necessary	Only If Necessary	1	T-3 Shim 3.2-3.3 mm Selective

HL3Z-7A527-R	Only If Necessary	Only If Necessary	1	T-3 Shim 3.35-3.45 mm Selective
HL3Z-7A527-K	Only If Necessary	Only If Necessary	1	T-3 Shim 3.5-3.6 mm Selective
HL3Z-7A527-L	Only If Necessary	Only If Necessary	1	T-3 Shim 3.65-3.75 mm Selective
HL3Z-7A527-M	Only If Necessary	Only If Necessary	1	T-3 Shim 3.8-3.9 mm Selective
HL3Z-7A527-S	Only If Necessary	Only If Necessary	1	T-3 Shim 3.95-4.05 mm Selective
HL3Z-7A527-T	Only If Necessary	Only If Necessary	1	T-3 Shim 4.1-4.2 mm Selective
HL3Z-7A527-N	Only If Necessary	Only If Necessary	1	T-3 Shim 4.25-4.35 mm Selective
HL3Z-7D483-A	Only If Necessary	Only If Necessary	1	D Clutch Snap Ring 1.8 mm Selective
HL3Z-7D483-B	Only If Necessary	Only If Necessary	1	D Clutch Snap Ring 2.0 mm Selective
HL3Z-7D483-C	Only If Necessary	Only If Necessary	1	D Clutch Snap Ring 2.2 mm Selective
HL3Z-7D483-D	Only If Necessary	Only If Necessary	1	D Clutch Snap Ring 2.4 mm Selective
HL3Z-7D483-E	Only If Necessary	Only If Necessary	1	D Clutch Snap Ring 2.6 mm Selective
HL3Z-7D483-F	Only If Necessary	Only If Necessary	1	D Clutch Snap Ring 2.8 mm Selective
HL3Z-7C122-A	Only If Necessary	Only If Necessary	1	C Clutch Snap Ring 1.5 mm Selective
HL3Z-7C122-B	Only If Necessary	Only If Necessary	1	C Clutch Snap Ring 1.7 mm Selective
HL3Z-7C122-C	Only If Necessary	Only If Necessary	1	C Clutch Snap Ring 1.9 mm Selective
HL3Z-7C122-D	Only If Necessary	Only If Necessary	1	C Clutch Snap Ring 2.1 mm Selective
HL3Z-7C122-E	Only If Necessary	Only If Necessary	1	C Clutch Snap Ring 2.3 mm Selective
HL3Z-7C122-F	Only If Necessary	Only If Necessary	1	C Clutch Snap Ring 2.5 mm Selective
HL3Z-7H365-C	Only If Necessary	Only If Necessary	1	F Clutch Snap Ring 1.5 mm Selective
HL3Z-7H365-D	Only If Necessary	Only If Necessary	1	F Clutch Snap Ring 1.7 mm Selective
HL3Z-7H365-E	Only If Necessary	Only If Necessary	1	F Clutch Snap Ring 1.9 mm Selective
HL3Z-7H365-F	Only If Necessary	Only If Necessary	1	F Clutch Snap Ring 2.1 mm Selective
HL3Z-7H365-G	Only If Necessary	Only If Necessary	1	F Clutch Snap Ring 2.3 mm Selective

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

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description	Note
7L1Z-4B496-C	2	2	1	CV Joint-To-Pinion Flange Cup Bolts And Retaining Straps (4WD)	
FL3Z-6775-D	1	1	1	Self-Adhesive Heat Shield	
7L1Z-4B496-D	3	3	1	CV Joint-To-Transfer Case Flange Cup Bolts And Retaining Straps (4WD Expedition/Navigator)	
JL1Z-7N134-A	1	1	1	Park Override Lever Bolt (Non-Column Shift Expedition/Navigator)	
FL3Z-5C226-A	2	2	1	Left And Right Catalytic Converter Gasket (F-150 2.7L)	
W520113-S440	4	1	4	Stabilizer Bar Bracket Nuts	
W520114-S442	4	1	4	Transmission Support Crossmember Nuts	
W520514-S440	4	4	1	Left And Right Catalytic Converter Nuts (All Gas Non-Hybrid)	
W704980-S439	1	1	4	Park Manual Release Cable Bracket Bolt (F-150 Gas/Hybrid)	
W709771-S440	2	2	1	Transmission Mount Nuts	
W711140-S901	3	3	1	Transmission Insulator Bolts And Washers (RWD Gas)	
W714418-S439	4	1	4	Transmission Support Crossmember Bolts	
W715131-S437	1	1	4	Transmission Fluid Cooler Tube Bracket Bolt (Expedition/Navigator)	
W715618-S437	Gas Engines Require 4 Pieces, Diesel Engine Require 6 Pieces	1 For Gas, 2 For Diesel	4	Torque Converter Nuts	Does not apply to hybrid
W715798-S442	1	1	4	Fluid Cooler Tube Stud Bolt (3.0L) / Park Manual Release Cable Bracket Bolt (3.5L)	
W716375-S900	9	2	5	Transfer Case Bolts (4WD)	
W718353-S900	4	1	4	Transmission Insulator Bolts (4WD) (Gas/Hybrid)	
W718926-S900	4	1	4	Transmission Insulator Bolts (4WD) (Diesel)	
W715579-S439	2	1	4	Driveshaft Center Bearing Bolt (If Equipped With Two Piece Driveshaft)	
TA-24-B	As Needed	As Needed		Motorcraft® Thread Sealant With PTFE (4WD)	
VC-13DL-G	As Needed	As Needed		Motorcraft® Yellow Prediluted Antifreeze/Coolant (All Markets Except Canada)	
CVC-13DL-G	As Needed	As Needed		Motorcraft® Yellow Prediluted Antifreeze/Coolant (Canada Only)	

XG-1-E1	As Needed	As Needed		Motorcraft® Premium Long-Life Grease	
XL-5-A	As Needed	As Needed		Motorcraft® Multi-Purpose Grease Spray	
XT-10-QLVC	As Needed	As Needed		Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (All Markets Except Canada)	Transfer Case Fluid
CXT-10-LV6	As Needed	As Needed		Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (Canada Only)	Transfer Case Fluid
XT-12-QULV	As Needed	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	Claim Quantity	Package Order Quantity	Number in Package	Description
4W9Z-6397-A	Only If Necessary	Only If Necessary	1	Engine Block Dowel Pins (3.0L)
5L7Z-7D285-A	Only If Necessary	Only If Necessary	2	Transmission Fluid Cooler Tube Seals (3.0L/3.5L)
5L7Z-7J324-A	Only If Necessary	Only If Necessary	2	Transmission Fluid Cooler Tube Backing Rings (3.0L/3.5L)
ML3Z-4421-A	Only If Necessary	Only If Necessary	1	Front Driveshaft Slip Yoke Boot
W701228-S300	Only If Necessary	Only If Necessary	4	Engine Block Dowel Pins (5.0L)
W718758-S300	Only If Necessary	Only If Necessary	4	Engine Block Dowel Pins (2.7L/3.3L/3.5L)

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

Parts - Mustang Transmission Removal And Installation

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
BR3Z-5B266-A	1	1	1	Exhaust Gasket (5.0L)
W705443-S900	2	1	4	Catalytic Converter Flange Nuts (5.0L)
W710726-S437	2	1	4	Selector Lever Cable Bolts

W715131-S437	1	1	4	Transmission Fluid Cooler Tube Bolt
W715618-S437	5.0L Require 4 Pieces, 2.3L Require 6 Pieces	1 For 5.0L, 2 For 2.3L	4	Torque Converter Nuts
FR3Z-4B496-B	3	3	1	Driveshaft To Pinion Flange Bolts
W719298-S439	3	1	4	Driveshaft To Transmission Flange Bolts (If Equipped) (2.3L)
N800594-S101	4	1	4	Driveshaft To Transmission Flange Bolts (If Equipped) (5.0L)
W500545-S439	3	1	4	Driveshaft To Transmission Flange Bolts
W717822-S439	2	1	4	Driveshaft Center Bearing Bolts (If Equipped)
TA-25-B	As Needed	As Needed		Motorcraft® Threadlock and Sealer (Convertible)
XL-1	As Needed	As Needed		Motorcraft® Penetrating and Lock Lubricant
XL-2	As Needed	As Needed		Motorcraft® High Temperature Nickel Anti-Seize Lubricant
XL-5-A	As Needed	As Needed		Motorcraft® Multi-Purpose Grease Spray
XT-12-QULV	As Needed	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	Claim Quantity	Package Order Quantity	Number in Package	Description
5L7Z-7D285-A	Only If Necessary	Only If Necessary	2	Transmission Fluid Cooler Tube Seals
5L7Z-7J324-A	Only If Necessary	Only If Necessary	2	Transmission Fluid Cooler Tube Backing Rings
JR3Z-4782-B	Only If Necessary	Only If Necessary	1	Flex Coupling Driveshaft

Parts - Ranger Transmission Removal And Installation

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description	Note
JB3Z-4B496-B	6	6	1	CV Joint-To-Transfer Case And Pinion Flange Bolts And Retaining Straps (4WD)	
BE8Z-6731-AB	1	1	1	Engine Oil Filter And Gasket (4WD)	
KB3Z-6L612-A	1	1	1	Catalytic Converter Gasket	
W500121-S437	9	3	4	Transfer Case Bolts (4WD)	
W500642-S437	4	4	1	Transmission Support Insulator Bolts (4WD)	
W700056-S450B	2	1	4	Selector Lever Cable Bracket Bolts	
W714265-S442	3	1	4	Catalytic Converter Nuts	

W715618-S437	6	2	4	Torque Converter Nuts	
W716936-S442	2	2	1	Stabalizer Bar Bracket Nuts	
W719427-S439	2	1	4	Stabalizer Bar Bracket Bolts	
W710233-S437	4	4	1	Driveshaft Flange To Pinion Flange Bolts	
W714780-S439	2	1	4	Driveshaft Center Bearing Bolt (If Equipped With Two Piece Driveshaft)	
W716344-S437	4	4	1	Driveshaft Flange To Transmission Flange Bolts	
PM-4-A	As Needed	As Needed		Motorcraft® Metal Brake Parts Cleaner (Compliant With Low Volatile Organic Compound Requirements As Required In Some USA States)	
PM-4-B	As Needed	As Needed		Motorcraft® Metal Brake Parts Cleaner (Not Compliant With Volatile Organic Compound Requirements)	
XL-2	As Needed	As Needed		Motorcraft® High Temperature Nickel Anti-Seize Lubricant	
XL-5-A	As Needed	As Needed		Motorcraft® Multi-Purpose Grease Spray	
XO-5W30-Q1SP	As Needed	As Needed		Motorcraft® SAE 5W-30 Synthetic Blend Motor Oil (All Markets Except Canada)	
CXO-5W30-LSP6	As Needed	As Needed		Motorcraft® SAE 5W-30 Super Premium Motor Oil (Canada Only)	
XT-10-QLVC	As Needed	As Needed		Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (All Markets Except Canada)	Transfer Case Fluid
CXT-10-LV6	As Needed	As Needed		Motorcraft® MERCON® LV Automatic Transmission Fluid (4WD) (Canada Only)	Transfer Case Fluid
XT-12-QULV	As Needed	As Needed		Motorcraft® MERCON® ULV Automatic Transmission Fluid	

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

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
JB3Z-7J227-A	Only If Necessary	Only If Necessary	1	Transmission Fluid Cooler Tube Seals
W701183-S1300	Only If Necessary	Only If Necessary	4	Engine Block Dowel Pins (2.3L)

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

Package Order Quantity refers to the amount of the service part number package(s) required to repair the vehicle.

Number In Package refers to the number of individual pieces included in a service part number package.

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.

Only If Necessary 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 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.

- Using the latest software level of the appropriate Ford diagnostic scan tool, check for DTCs.
- 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.
 - Yes - proceed to Sticking Valves - Main Control Valve Body Step 1.
 - No - proceed to Transmission Solenoid Strategy Step 1.

Transmission Solenoid Strategy

- Reprogram the existing transmission strategy download into the PCM/TCM. Refer to WSM, Section 307-01.
 - For FDRS applications when prompted, select Transmission hardware was not replaced - Reprogram TRID strategy for the existing transmission.
 - For IDS applications when prompted, select Reprogram Only-No Hardware Replaced.
- Perform the adaptive learning drive cycle. Refer to WSM, Section 307-01.
- Does the vehicle still exhibit the condition after performing the adaptive learning drive?
 - Yes - proceed to Sticking Valves - Main Control Valve Body, Step 1.
 - No - repair is complete.

NOTE: Advise the customer 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

NOTE: Affected vehicles are not main control break-in capable.

- Overhaul (clean and inspect) the main control valve body and perform the adaptive learning drive cycle. Refer to WSM, Section 307-01.
- Does the vehicle still exhibit the condition after overhauling the main control valve body and performing an adaptive learning drive cycle?
 - Yes, vehicles built on or before 15-Aug-2022 - proceed to CDF Clutch Cylinder Replacement Step 1.
 - Yes, vehicles built on or after 16-Aug-2022 - this article is complete. Refer to WSM, Section 307-01 for normal diagnostics.
 - 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 which are low time in service (LTIS) policy eligible, the dealer has the option to continue with this TSB repair or replace the transmission under the 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, 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.