



TECHNICAL SERVICE BULLETIN

10R60 Automatic Transmission - Harsh/Delayed Engagement And/Or Harsh/Delayed Shift

23-2352

14 November
2023

Model:

Ford 2021-2023 Bronco	Transmission/Transaxle: 10R60
2020-2023 Explorer	Transmission/Transaxle: 10R60
Lincoln 2020-2023 Aviator	Transmission/Transaxle: 10R60

Issue: Some 2020-2023 Explorer/Aviator and 2021-2023 Bronco vehicles equipped with a 10R60 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 and/or sticking valves in the main control valve body. 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:
 - 2020-2023 Explorer/Aviator
 - 2021-2023 Bronco
- Equipped with a 10R60 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	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
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	1	1
HL3Z-7A098-A	If Needed	Fluid Filter (Bronco)	1	1
MB3Z-7G186-A	If Needed	Fluid Filter (Explorer/Aviator)	1	1
7T4Z-7Z302-A	If Needed	Transmission Fluid Filter Seal	1	1
JB3Z-7J227-A	If Needed	Auxiliary Pump Tube O-ring (If Equipped)	1	1
HL3Z-7Z490-E	If Needed	Chanel Plate	1	1
L1MZ-7Z490-E	If Needed	Separator Plate (Explorer/Aviator)	1	1
L1MZ-7Z490-F	If Needed	Separator Plate (Bronco)	1	1

Parts - Bronco - Main Control Valve Body Removal And Installation

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
W720545-S442	1	Transmission Fluid Heat Exchanger Bolt	4	2
W520214-S440	1	Stabilizer Bar Bracket Nuts (If Equipped)	2	2
W505444-S439	1	Stabilizer Bar Undershield Bolts	4	4

Parts - Bronco - Main Control Valve Body Removal And Installation - Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
HL3Z-7J227-A	If Needed	Transmission Fluid Heat Exchanger O-Ring Seals	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: The CDF sleeve repair is not needed for 10R60 and was intentionally not included in the 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. 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 3.
2. Does the vehicle still exhibit the condition after reprogramming the TCM/PCM and performing the adaptive learning drive cycle?
 - (1). Yes - proceed to Step 3.
 - (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.

3. 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 on or after 2-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.
 - (1). 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.

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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.