



# TECHNICAL SERVICE BULLETIN

## 10R80 - Harsh/Delayed Engagement And/Or Harsh/Delayed Shift

**23-2123**

13 April 2023

This bulletin supersedes 22-2139.

**Model:**

<b>Ford</b>
2018-2021 Expedition
2017-2020 F-150
2018-2021 Mustang
2019-2023 Ranger
<b>Lincoln</b>
2018-2021 Navigator

**Summary**

This article supersedes TSB 22-2139 to update vehicle model years affected.

**Issue:** Some 2017-2020 F-150, 2018-2021 Expedition/Navigator/Mustang and 2019-2023 Ranger vehicles equipped with a 10R80 automatic transmission may exhibit a harsh engagement/harsh shift/delayed shift. It is possible the vehicle may also have an illuminated malfunction indicator lamp (MIL) or 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 incompatibility of the adaptive calibration to adapt to hardware break-in over time. To correct the condition, follow the Service Procedure steps to overhaul the main control valve body and/or perform an adaptive learning drive cycle.

**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
- 10R80 automatic transmission
- At least one of the following symptoms:
  - Harsh engagement
  - Harsh shift
  - Delayed shift

**Parts**

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
W520113-S440	1	Stabilizer Bar Bracket Nuts	4	4
W715131-S442	1	Transmission Fluid Cooler Tube Bolt	4	1
JL1Z-7N134-A	1	Park Override Bolt (Rotary Gear Shift)	1	1
W718353-S900	1	Transmission Mount Bolt (4WD) F-150	4	4
W711140-S901	1	Transmission Mount Bolt (RWD) F-150	4	3
XT-12-QULV	As	Motorcraft® MERCON® ULV Automatic		

Needed	Transmission Fluid
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Quantity refers to the amount of the service part number 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.

## Parts

### 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	1	1
HL3Z-7J227-A	If Needed	Auxiliary Pump Tube O-ring (Auto-Stop-Start)	1	1
HL3Z-7G199-A	If Needed	Auxiliary Pump Tube Seal (Auto-Stop-Start)	1	1
HL3Z-7A248-D	If Needed	Transmission Fluid Pump Seal	1	1
7T4Z-7Z302-A	If Needed	Transmission Fluid Filter Seal	1	1
5L7Z-7J324-A	If Needed	Transmission Fluid Cooler Tube Backing Ring	2	2
5L7Z-7D285-A	If Needed	Transmission Fluid Cooler Tube Seal	2	2
HL3Z-7Z490-E	If Needed	Chanel Plate	1	1
JL3Z-7Z490-D	If Needed	Separator Plate (Mustang, Built On Or Before 13-Jan-2021)	1	1
JL1Z-7Z490-C	If Needed	Separator Plate (Expedition With Rotary Gear Shift Knob, Navigator)	1	1
JL3Z-7Z490-E	If Needed	Separator Plate (Expedition With Column Shift, Ranger, 2018-2020 F-150)	1	1
HL3Z-7Z490-D	If Needed	Separator Plate (2017 F-150)	1	1
L1MZ-7Z490-J	If Needed	Separator Plate (2021 Mustang, Built On Or After 14-Jan-2021)	1	1

If Needed indicates the part is not mandatory.

**Warranty Status:** Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Emissions Warranty/Service Part Warranty (SPW)/Special Service Part (SSP)/Extended Service Plan (ESP) coverage. Limits/policies/prior approvals are not altered by a TSB. NVLW/Emissions Warranty/SPW/SSP/ESP coverage limits are determined by the identified causal part and verified using the OASIS part coverage tool.

## Labor Times

Description	Operation No.	Time
All vehicles: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (No) Repair Complete (Do Not Use With Any Other Labor Operations)	232123A	0.8 Hrs.

2018-2020 F-150 4X4 5.0L: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123B	4.9 Hrs.
2018-2020 F-150 4X4 5.0L: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123C	5.5 Hrs.
2018-2020 F-150 4X2 5.0L: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123D	4.7 Hrs.
2018-2020 F-150 4X2 5.0L: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123E	5.3 Hrs.
2018-2020 F-150 4X2/4X4 3.0L: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123F	4.0 Hrs.
2018-2020 F-150 4X2/4X4 3.0L: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123G	4.6 Hrs.
2017-2020 F-150 4X4 Raptor 3.5L EcoBoost: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123H	4.1 Hrs.
2017-2020 F-150 4X4 Raptor 3.5L EcoBoost: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123J	4.7 Hrs.
2017-2020 F-150 4X2/4X4 3.5L EcoBoost: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123K	4.5 Hrs.
2017-2020 F-150 4X2/4X4 3.5L EcoBoost: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123L	5.2 Hrs.
2017-2020 F-150 4X2/4X4 2.7L EcoBoost: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123M	4.5 Hrs.
2017-2020 F-150 4X2/4X4 2.7L EcoBoost: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123N	5.1 Hrs.
2019-2023 Ranger 4X2/4X4: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123P	4.0 Hrs.
2019-2023 Ranger 4X2/4X4: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123Q	4.6 Hrs.
2018-2021 Expedition/Navigator 4X2/4X4: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123R	4.6 Hrs.
2018-2021 Expedition/Navigator 4X2/4X4: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123S	5.3 Hrs.
2018-2021 Mustang: Retrieve DTCs, (Yes) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	232123T	3.9 Hrs.
2018-2021 Mustang: Retrieve DTCs, (No) Reprogram The Transmission Strategy Download Into The PCM/TCM And Perform Adaptive Learning Drive Cycle (Yes) Overhaul The Main	232123U	4.5 Hrs.

Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)

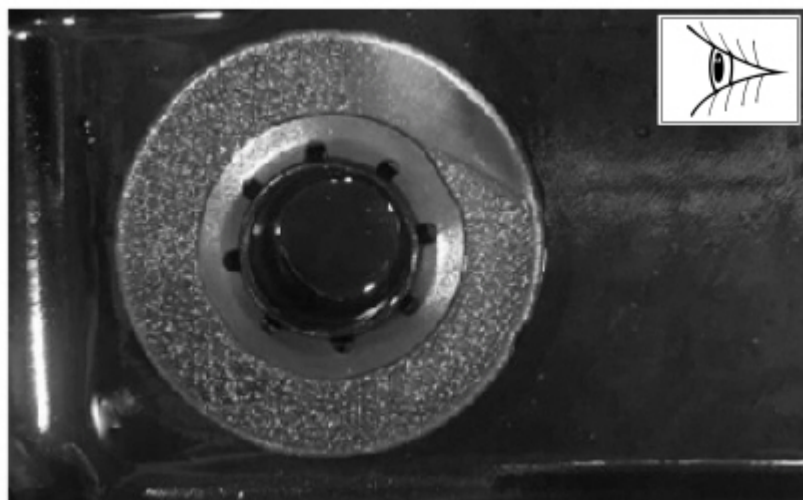
### Repair/Claim Coding

Causal Part:	7A100
Condition Code:	49

### Service Procedure

- 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 Step 4.
  - No - proceed to Step 2.
- Reprogram the transmission strategy download into the PCM/TCM. Perform the adaptive learning drive cycle. Refer to Workshop Manual (WSM), Section 307-01.
- Does the vehicle still exhibit the condition after performing the transmission strategy download and adaptive learning drive cycle?
  - Yes - proceed to Step 4.
  - No - repair is complete.
- Overhaul the main control valve body and road test vehicle following the adaptive learning drive cycle. Refer to WSM, Section 307-01.
  - Upon removal of the transmission fluid pan, metal flakes may be present on the magnet. This is a normal condition. (Figure 1)

Figure 1 - Example of a normal amount of metal flakes on the transmission fluid pan magnet



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**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.**

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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.