



# TECHNICAL SERVICE BULLETIN

## Harsh Engagement/Harsh Shift/Delayed Shift With Or Without DTCs

21-2377

27 October  
2021

This bulletin supersedes 21-2321. Reason for update: New Part/Procedure For Same Condition

### Model:

Ford 2020-2021 Transit
---------------------------

### Summary

This article supersedes TSB 21-2321 to update the Title, Issue, Action and Service Procedure.

**Issue:** Some 2020-2021 Transit vehicles may exhibit a harsh engagement/harsh shift/delayed shift. It is possible to also experience an illuminated malfunction indicator lamp (MIL) or diagnostic trouble codes (DTC) P0729, P0731, P0732, P0733, P0734, P0735, P0736, P076F, P07D9, P07F6, P07F7, P2700, P2701, P2702, P2703, P2704 and/or P2705 stored in the powertrain control module (PCM). This may be due to sticking valves in the main control valve body. To correct the condition, follow the Service Procedure steps to perform the PCM - Transmission Accelerated Main Control Break In routine for the appropriate clutch(s) and/or overhaul main control valve body.

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

- 2020-2021 Transit
- At least one of the following symptoms:
  - Harsh engagement
  - Harsh shift
  - Delayed shift

### Parts

#### Required Parts

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
7L1Z-7J227-A	2	Fluid Cooler O-ring Seals	2	4
7T4Z-7Z302-A	1	Transmission Fluid Filter Seal		
HL3Z-7J227-A	1	Auxiliary Pump Tube O-Ring		
W505434-S439	1	Lower Load Path Bar Retainers	4	4
W506434-S439	2	Lower Load Path Bar Retainers	4	8
W520215-S442	1	Front Subframe Forward Nuts (2 Pieces), Tie Rod Nuts (2 Pieces)	4	4
W711076-S442	1	Lower Ball Joint Nut	4	2
W711137-S442	1	Steering Column Shaft Bolt	4	1
W716331-S439	1	Transmission Support Bolts	4	4
W712658-S439	1	Solenoid Retaining Plate Blot	4	2
HL3Z-7Z490-E	1	Channel Plate		
L1MZ-7Z490-F	1	Separator Plate		
HL3Z-7G007-A	2	Solenoid Retaining Clips	4	6
XL-2	As Needed	Motorcraft® High Temperature Nickel Anti-Seize Lubricant (DRW Vehicles)		

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.

Unit of Issue and Piece Quantity are 1 unless otherwise stated.

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
W715922-S442	If Needed	Front Stabilizer Bar Link Rod Lower Nut	4	Up To 2
W718943-S439	If Needed	Front Subframe Rearward Nuts	4	Up To 2
XT-12-QULV	If Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid		

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
2020-2021 Transit 10R80 Transmission: Retrieve DTCs, Perform The Transmission Accelerated Main Control Break-In Routine (Pass), Clear Adaptive Tables, And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	212377A	1.9 Hrs.
2020-2021 Transit 10R80 Transmission: Retrieve DTCs, Perform The Transmission Accelerated Main Control Break-In Routine Clear Adaptive Tables, Perform Adaptive Learning Drive Cycle (Fail) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Operations Outside Of This Article)	212377B	7.7 Hrs.
2020-2021 Transit Without Lane Departure: Additional Time To Perform Alignment (Can Be Claimed With Labor Operation B)	212377C	0.8 Hrs.
2020-2021 Transit With Lane Departure: Additional Time To Perform Alignment (Can Be Claimed With Labor Operation B)	212377D	1.2 Hrs.
2020-2021 Transit Additional Time To Remove And Install Running Boards When Necessary (Can Be Claimed With Operation B)	212377E	0.3 Hrs.

## Repair/Claim Coding

Causal Part:	7A100
Condition Code:	49

## Service Procedure

### 1. Are any transmission related DTCs present?

(1). Yes - determine the appropriate clutch(s) to be cycled related to DTCs present. Refer to Workshop Manual (WSM), Section 307-01.

(2). No - determine the appropriate clutch(s) to be cycled related to the symptoms present. Refer to WSM, Section 307-01.

### 2. 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.**

3. Prepare vehicle for PCM - Transmission Accelerated Main Control Break In routine by positioning on a frame-engaging lift with wheels off the ground to prevent vehicle movement.
4. Using the latest software level of the appropriate Ford diagnostic scan tool, perform the PCM - Transmission Accelerated Main Control Break In routine 3 times on the appropriate clutch(s) determined to be cycled.
5. Perform the adaptive learning drive cycle. Refer to WSM, Section 307-01.

**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.**

6. 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 - overhaul (clean and inspect) the main control valve body. Refer to WSM, Section 307-01.
  - (2). No - repair is complete.
7. Perform the adaptive learning drive cycle. Refer to WSM, Section 307-01.

---

© 2021 Ford Motor Company

All rights reserved.

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.