



TECHNICAL SERVICE BULLETIN

10R140 Automatic Transmission – Harsh Engagement/Harsh Shift/Delayed Shift With Or Without DTCs

21-2420

 24 November
2021

This bulletin supersedes 21-2317. Reason for update: New Part/Procedure For Same Condition

Model:

Ford 2020 Super Duty	Transmission/Transaxle: (10R140)
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Summary

This article supersedes TSB 21-2317 to update the Service Procedure, labor operation description and applicability.

Issue: Some 2020 F-Super Duty vehicles equipped with a 10R140 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) and diagnostic trouble codes (DTCs) P0729, P0731, P0732, P0733, P0734, P0735, P0736, P076F, P07D9, P07F7, P2700, P2701, P2702, P2703, P2704 and/or P2705 stored in the powertrain control module (PCM) or transmission control module (TCM). 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 transmission accelerated main control break-in routine for the appropriate clutches 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 F-Super Duty
- 10R140 automatic transmission
- At least one of the following conditions:
 - Harsh engagement
 - Harsh shift
 - Delayed shift

Parts

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
W712658-S439	1	LPC Retaining Plate Bolt	4	1
LC3Z-7A008-E	1	MCA Separator Plate Kit (Fixed Yoke)		
LC3Z-7A008-F	1	MCA Separator Plate Kit (Slip Yoke)		
LC3Z-7G007-A	6	Shift Solenoid Retainers (Small)	1	6
JM5Z-7G007-A	1	Shift Solenoid Retainer (Large)		
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid		

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.

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

Parts

Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description
LC3Z-7F396-C	If Needed	Fluid Pan Gasket
LC3Z-7G186-A	If Needed	Fluid Filter
LC3Z-7N265-A	If Needed	Main Control Manifold Seal
LC3Z-7N265-B	If Needed	Fluid Pump Gasket

If Needed indicates the part is not mandatory.

Warranty Status: Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Service Part Warranty (SPW)/Special Service Part (SSP)/Extended Service Plan (ESP) coverage. Limits/policies/prior approvals are not altered by a TSB. NVLW/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 F-Super Duty 10R140 Transmission: Retrieve DTCs, Check Vehicle Build Date And Perform The Transmission Accelerated Main Control Break-In Routine And Perform Adaptive Learning Drive Cycle (Pass) Repair Complete (Do Not Use With Any Other Labor Operations)	212420A	2.3 Hrs.
2020 F-Super Duty 10R140 Transmission: Retrieve DTCs, Check Vehicle Build Date And Perform The Transmission Accelerated Main Control Break-In Routine And Perform Adaptive Learning Drive Cycle (Fail) Overhaul The Main Control Valve Body And Perform Adaptive Learning Drive Cycle (Do Not Use With Any Other Labor Operations)	212420B	6.4 Hrs.

Repair/Claim Coding

Causal Part:	7A100
Condition Code:	49

Service Procedure

- Is the vehicle built on or before 10-Feb-2021, equipped with a 6.7L engine and has only DTC P07F6 stored?
 - Yes - this article does not apply. Refer to other service articles for this condition.
 - No - proceed to Step 2.
- Is the vehicle built on or before 01-Apr-2020, equipped with a 6.2L/7.3L engine and has only DTC P07F7 stored?
 - Yes - this article does not apply. Refer to other service articles for this condition.
 - No - proceed to Step 3.
- Are any transmission related DTCs present?
 - Yes - determine the appropriate clutch(s) to be cycled related to DTCs present. Refer to Workshop Manual (WSM), Section 307-01.
 - No - determine the appropriate clutch(s) to be cycled related to symptoms present. Refer to WSM, Section 307-01.
- Record and clear all DTCs present before performing the PCM/TCM - Transmission Accelerated Main Control Break In routine.



CAUTION: Failure to use a frame engaging lift could damage the vehicle.

- Prepare vehicle for the PCM/TCM Transmission Accelerated Main Control Break In routine by positioning on a frame-engaging lift with wheels off the ground to prevent vehicle movement.
- Using the latest software level of the appropriate Ford diagnostic scan tool, perform the PCM/TCM - Transmission Accelerated Main Control Break In routine 3 times on the appropriate clutch(s) determined to be cycled.
- 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.

8. Does the vehicle still exhibit the condition after performing the PCM/TCM - 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.

9. Perform 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.