



TECHNICAL SERVICE BULLETIN

Poor Shift Quality With Illuminated Powertrain Malfunction (Wrench) Indicator With DTCs P2704 And P0771

26-2252

03 September
2026

Model:

Ford 2025 F-650/F-750	Equipped with: 6.7L Diesel Transmission: 10R140
2025 F-Super Duty	Equipped with: 6.7L Diesel / 7.3L Gas Transmission: 10R140

Markets: North American markets only

Issue: Some of the vehicles listed in the model statement above may exhibit all of the following conditions:

- Poor shift quality.
- Illuminated powertrain malfunction (wrench) indicator with DTCs P2704 and P0771 stored in the PCM/TCM.

This may be due to the TCM software (6.7L engine only) and/or sticking valves in the main control valve body and/or damaged E clutch friction plates and/or E clutch steel plates.

Action: For vehicles that meet all of the criteria in the Issue and Model statements, follow the Service Procedure to reprogram the PCM/TCM and/or perform "PCM/TCM - Transmission Accelerated Main Control Break-In" routine and/or replace the transmission E clutch friction plates and E clutch steel plates.

Parts - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Description	Note
LC3Z-7H223-AA	Only If Necessary (Up To 16)	Front Support Assembly Bolt Washers	
LC3Z-7B031-B	Only If Necessary (Up To 1)	Front Support-To-Case Seal	
LC3Z-7A248-A	Only If Necessary (Up To 1)	Torque Converter Hub Seal	
LC3Z-7G091-D	Only If Necessary (Up To 2)	Input Shaft Torque Converter (F0) Teflon Seals	
LC3Z-7G091-C	Only If Necessary (Up To 3)	Input Shaft Seals (F9)	
LC3Z-7G091-B	Only If Necessary (Up To 7)	Input Shaft Front (F2) Teflon Seals	
LC3Z-7B399-A	Only If Necessary (Up To 4)	Sun Gear No. 3 Shaft (F7) Seals	
LC3Z-7G091-A	Only If Necessary (Up To 5)	Input Shaft (F8) Seals	
LC3Z-7G242-C	Only If Necessary (Up To 2)	Input Shaft Small O-Ring Seals	
LC3Z-7G242-D	Only If Necessary (Up To 1)	Input Shaft Large O-Ring Seal	
LC3Z-7A262-F	Only If Necessary (Up To 1)	E Clutch Piston	

LC3Z-7F227-A	Only If Necessary (Up To 1)	E Clutch Balance Dam Outer Seal	
LC3Z-7G242-A	Only If Necessary (Up To 1)	E Clutch Piston And Balance Dam Inner Seal	
LC3Z-7G242-B	Only If Necessary (Up To 1)	E Clutch Piston And Balance Dam Inner Seal	
LC3Z-7B164-C	Only If Necessary (Up To 4)	E Clutch Friction Plates	
LC3Z-7B442-E	Only If Necessary (Up To 4)	E Clutch Steel Plates	
7B066	Only If Necessary (Up To 1)	E Clutch Select Fit Pressure Plate - Refer To The Parts Catalog For The VIN Specific Application	
W715131-S442	Only If Necessary (Up To 1)	Transmission Fluid Cooler Tube Bolt	
W714824-S442	Only If Necessary (Up To 2)	Selector Lever Cable Bracket Bolts	
W715618-S437	Only If Necessary (Up To 6)	Torque Converter Nuts	
W718005-S900	Only If Necessary (Up To 2)	Exhaust Lower Downpipe-To-Catalyst And Particulate Filter Assembly Bolts (6.7L)	
W710356-S439	Only If Necessary (Up To 4)	Transmission Support Crossmember Bolts	F-Super Duty
W520515-S440	Only If Necessary (Up To 4)	Transmission Support Crossmember Nuts	F-Super Duty
W520115-S441	Only If Necessary (Up To 3)	Transmission Support Crossmember Nuts	F-650, F-750
W520116-S441	Only If Necessary (Up To 2)	Transmission Support Crossmember Nuts	F-650, F-750
W709771-S440	Only If Necessary (Up To 2)	Transmission Mount Support Isolator Nuts	
W721321-S439	Only If Necessary (Up To 15)	Transmission Support Insulator Bracket Bolts (RWD Only)/Transfer Case To Transmission Bolts (4x4 Only)	
391558-S102	Only If Necessary (Up To 2)	Transmission Support Insulator Bolts	
W714717-S439	Only If Necessary (Up To 2)	Exhaust Y-Pipe-to-Resonator Bolts - Dual Converter Y-Pipe (7.3L)	
W520514-S440	Only If Necessary (Up To 4)	RH & LH Exhaust Y-Pipe-to-Exhaust Manifold Nuts (7.3L)	
W714656-S439	Only If Necessary (Up To 4)	RH & LH Hanger Bracket Bolts - Dual Converter Y-Pipe (7.3L)	
W719575-S900	Only If Necessary (Up To 2)	Exhaust Y-Pipe-To-Catalytic Converter Bolts - Exhaust Y-Pipe - Chassis Cab/Regular Cab (7.3L)	
W714286-S442	Only If Necessary (Up To 4)	RH & LH Hanger Bracket Bolts - Exhaust Y-Pipe - Chassis Cab/Regular Cab (7.3L)	
W705443-S900	Only If Necessary (Up To 6)	Oxidation Catalytic Converter to DPF Nuts/Oxidation Catalytic Converter Mounting Nuts	F-650, F-750
PC3Z-5A231-A	Only If Necessary (Up To 1)	Exhaust Lower Downpipe Clamp	F-650, F-750
FC3Z-8287-A	Only If Necessary (Up To 1)	Exhaust Upper Downpipe Clamp	F-650, F-750

PC4Z-5J281-A	Only If Necessary (Up To 1)	Reductant Injector Clamp	F-650, F-750
JB3Z-5J277-B	Only If Necessary (Up To 1)	Reductant Injector Gasket	F-650, F-750
W715624-S439	Only If Necessary (Up To 2)	Center Bearing Mounting Bolts	F-650, F-750
E4HZ-4A254-A	Only If Necessary (Up To 2)	Driveshaft To Output Shaft Straps	F-650, F-750
F1HZ-4N272-A	Only If Necessary (Up To 4)	Driveshaft To Output Shaft Flange Bolts	F-650, F-750
FC4Z-5E241-B	Only If Necessary (Up To 2)	DPF Gaskets (Straight Line Exhaust)	F-650, F-750
MB3Z-5E241-C	Only If Necessary (Up To 2)	DPF Gaskets (Switchback Exhaust/Vertical Stack Exhaust)	F-650, F-750
W703776-S442	Only If Necessary (Up To 2)	Exhaust Pipe Mounting Bracket Bolts (Straight Line Exhaust Only)	F-650, F-750
PC3Z-7F396-A	Only If Necessary (Up To 1)	Fluid Pan Gasket	
LC3Z-7N265-A	Only If Necessary (Up To 1)	Main Control Manifold Seal	
LC3Z-7G186-A	Only If Necessary (Up To 1)	Transmission Fluid Filter	
LC3Z-7N265-B	Only If Necessary (Up To 1)	Fluid Pump Gasket	
F2AZ-6397-A	Only If Necessary (Up To 2)	Dowel Pins	
PC3Z-7J227-A	Only If Necessary (Up To 4)	Transmission Fluid Cooler O-Ring Seals (7.3L)	
LC3Z-7J227-A	Only If Necessary (Up To 4)	Transmission Fluid Cooler O-Ring Seals (6.7L)	
LC3Z-7A527-A	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-B	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-C	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-D	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-E	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-F	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-G	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-H	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-J	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-K	Only If Necessary (Up To 1)	Selective Shim (T3)	

LC3Z-7A527-L	Only If Necessary (Up To 1)	Selective Shim (T3)	
LC3Z-7A527-M	Only If Necessary (Up To 1)	Selective Shim (T3)	
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (All Markets Except Canada)	(Transfer Case Fluid, 4WD Only)
CXT-10-LV6	As Needed	Motorcraft® MERCON® LV Automatic Transmission Fluid (Canada Only)	(Transfer Case Fluid, 4WD Only)
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid	All Markets
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray	
Obtain Locally	As Needed	Loctite 243 Threadlocker	
VC-13-G	As Needed	Motorcraft® Yellow Prediluted Antifreeze/Coolant (All Markets)	
CVC-13DL-G	As Needed	Motorcraft® Yellow Prediluted Antifreeze/Coolant (Canada Only)	
YN-12-D	As Needed	Motorcraft® PAG Refrigerant Compressor Oil (All Markets)	F-650, F-750
CYN-19-R	As Needed	Motorcraft® R-134a Refrigerant (Canada Only)	F-650, F-750
YN-19	As Needed	Motorcraft® R-134a Refrigerant (All Markets Except Canada and Mexico)	F-650, F-750

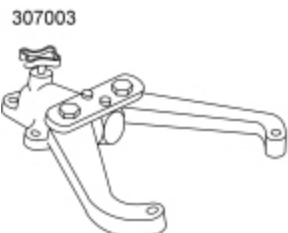
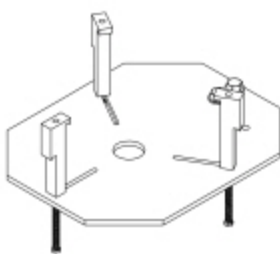
NOTE: All other parts/lubricants/fluids required by the WSM or instructed by the WSM to inspect and replace as necessary should be claimed outside of this article.

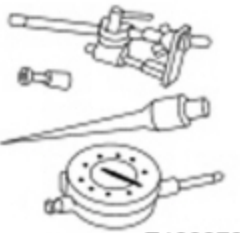
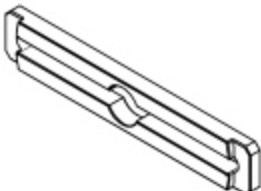
Claim Quantity refers to the total number of individual pieces required to repair the vehicle. This may differ from the number of service part number packages due to the unit of issue (UOI).

As Needed indicates the part is necessary but 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. Refer to the Service Procedure to determine the inspection/inclusion criteria.

Special Tool(s)

 307003	Holding fixture transmission 307-003 (T57L-500-B)
 E270048	Gauge clutch pack endplay 307-662

 E139373	Holding fixture with dial indicator gauge 100-002 (TOOL-4201-C)
 E302676	Bar endplay 307-799
 E302677	Puck endplay 307-800

Warranty Status: Warranty coverage limits and policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

Labor Times

Description	Operation No.	Time
2025 F-Super Duty 4X2 7.3L 10R140: Retrieve DTCs, Perform The PCM/TCM Transmission Accelerated Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass) Repair Complete	262252A	1.8 Hrs
2025 F-Super Duty 4X2 7.3L 10R140: Retrieve DTCs, Perform The PCM/TCM Transmission Accelerated Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Fail) Replace The E Clutch Frictions And Steel Plates Following The Service Procedure And Perform Adaptive Learn Drive Cycle	262252B	11.6 Hrs
2025 F-Super Duty 4X4 7.3L 10R140: Retrieve DTCs, Perform The PCM/TCM Transmission Accelerated Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass) Repair Complete	262252C	1.8 Hrs
2025 F-Super Duty 4X4 7.3L 10R140: Retrieve DTCs, Perform The PCM/TCM Transmission Accelerated Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Fail) Replace The E Clutch Frictions And Steel Plates Following The Service Procedure And Perform Adaptive Learn Drive Cycle	262252D	12.8 Hrs
2025 F-Super Duty 4X2 6.7L 10R140: Retrieve DTCs, Reprogram The PCM/TCM, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass) Repair Complete	262252E	0.8 Hrs
2025 F-Super Duty 4X2 6.7L 10R140: Retrieve DTCs, Reprogram The PCM/TCM, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes(Fail) Perform The PCM/TCM Transmission Accelerate Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass) Repair Complete	262252F	2.4 Hrs

2025 F-Super Duty 4X2 6.7L 10R140: Retrieve DTCs, Reprogram The PCM/TCM, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes(Fail) Perform The PCM/TCM Transmission Accelerate Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Fail) Replace The E Clutch Frictions And Steel Plates Following The Service Procedure And Perform Adaptive Learn Drive Cycle	262252G	17.1 Hrs
2025 F-Super Duty 4X4 6.7L 10R140: Retrieve DTCs, Reprogram The PCM/TCM, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass)Repair Complete	262252H	0.8 Hrs
2025 F-Super Duty 4X4 6.7L 10R140: Retrieve DTCs, Reprogram The PCM/TCM, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes(Fail) Perform The PCM/TCM Transmission Accelerate Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass) Repair Complete	262252J	2.4 Hrs
2025 F-Super Duty 4X4 6.7L 10R140: Retrieve DTCs, Reprogram The PCM/TCM, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes(Fail) Perform The PCM/TCM Transmission Accelerate Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Fail) Replace The E Clutch Frictions And Steel Plates Following The Service Procedure And Perform Adaptive Learn Drive Cycle	262252K	17.5 Hrs
2025 F-650/F-750 6.7L 10R140: Retrieve DTCs, Perform The PCM/TCM Transmission Accelerated Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Pass)Repair Complete	262252L	2.4 Hrs
2025 F-650/F-750 6.7L 10R140: Retrieve DTCs, Perform The PCM/TCM Transmission Accelerated Main Control Break-In Routine, Clear Codes, Perform Adaptive Learn Drive Cycle, Check Codes (Fail) Replace The E Clutch Frictions And Steel Plates Following The Service Procedure And Perform Adaptive Learn Drive Cycle	262252M	18.8 Hrs

Repair/Claim Coding

Causal Part:	7H091
Condition Code:	30

Service Procedure

- Is the vehicle an F-250 to F-600 equipped with a 6.7L diesel engine?
 - Yes - proceed to Step 2.
 - No - proceed to Step 4.
- Reprogram the PCM / TCM using the latest software level of the FDRS scan tool.
- Clear the DTCs and perform the adaptive learning drive cycle routine. Refer to the WSM, Section 307-01B. Do the DTCs return or does the vehicle still exhibit the symptoms?
 - Yes - proceed to Step 4.
 - 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.

- Prepare the 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 FDRS scan tool, perform the "PCM/TCM - Transmission Accelerated Main Control Break-In" routine 3 times on the E clutch.
- Lower the vehicle from the frame engaging lift.
- Clear the DTCs and perform the adaptive learning drive cycle routine. Refer to the WSM, Section 307-01B.
- Do the DTCs return or does the vehicle still exhibit the condition after performing the "PCM/TCM - Transmission Accelerated Main Control Break-In" routine and adaptive learning drive cycle?
 - Yes - proceed to Step 9.

(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.

9. Remove the transmission. Refer to the WSM, Section 307-01B.

10. Disassemble the transmission. Perform only the necessary steps to remove the E clutch assembly from the transmission case. Refer to the WSM, Section 307-01B > Overhaul.

(1). It is only necessary to remove the following components:

- Torque converter
- Main control assembly
- All 4 speed sensors (intermediate speed sensor A [ISSA], intermediate speed sensor B [ISSB], TSS and QSS)
- Fluid pump
- Front support
- Clutch and planetary assembly

11. Disassemble the clutch and planetary assembly. Perform only the necessary steps to remove the E clutch assembly from the input shaft. Refer to the WSM, Section 307-01B > Overhaul.

12. Disassemble the E clutch and discard the E clutch friction plates and steel plates. Refer to the WSM, Section 307-01B > Overhaul

13. Reassemble the E clutch, using new friction plates and steel plates, onto the E clutch hub. Refer to the WSM, Section 307-01B > Overhaul

14. Perform the E clutch clearance measurement. Refer to the WSM, Section 307-01B > Overhaul.

NOTE: A new E clutch hub washer must be installed.

(1). Assemble special service tools 307-003 (T57L-500-B) holding fixture transmission, and 307-662 gauge clutch pack endplay, as instructed in the WSM, Section 307-01B. Position the E clutch assembly on the special tool.

(2). Install special service tool 100-002 (TOOL-4201-C), holding fixture with dial indicator gauge. Position the dial-indicator plunger so it contacts the top surface of the E clutch pressure plate. Zero the dial indicator.

(3). Pull up on the E clutch pressure plate, measure and record the E clutch clearance at three different locations.

(4). Calculate the average of the three recorded clutch clearance measurements.

(5). Compare the average clutch clearance measurement to the E clutch clearance chart to determine the correct select fit pressure plate size. Refer to the WSM, Section 307-01B > Specifications.

(6). Install a new E clutch select fit pressure plate.

15. Reassemble the clutch and planetary assembly, and install the components required to perform the (T3) thrust bearing measurement. Refer to the WSM, Section 307-01B > Overhaul.

16. Perform the T3 thrust bearing measurement to set transmission front end clearance. Refer to the WSM, Section 307-01B > Overhaul.

(1). Install special service tools 307-799 bar endplay, and 307-800 puck endplay.

(2). Using a depth gauge, measure the distance from the top of the special tool to the top of the T3 thrust-bearing special tool at two different locations. Average the two measurements and add 2.5 in (63.5 mm). Record the result as measurement "A".

(3). Using Special Service Tools 307-799 bar endplay, and 307-800 puck endplay, use a depth gauge to measure the distance from the step of the special tool to the transmission deck mating surface at two different locations. Average the two measurements and record the result as measurement "B".

(4). Calculate the clearance between the front support and the T3 thrust bearing. Subtract measurement "B" from measurement "A" to get the clearance between the front support and the (T3) thrust bearing.

(5). Using the selective fit shim charts in the WSM, Section 307-01B > Specifications, select the appropriate (T3) selective shim to bring the transmission end clearance within specification.

(6). Install the selected (T3) selective shim.

17. Reassemble the transmission. Refer to the WSM, Section 307-01B > Overhaul.

18. Install the transmission. Refer to the WSM, Section 307-01B > Removal and Installation

19. Perform an adaptive learning drive cycle. Refer to the WSM, Section 307-01B.

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.

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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.