

**TECHNICAL SERVICE BULLETIN****10R140 - Poor Shift Quality With Illuminated Powertrain Malfunction (Wrench) Indicator And DTCs P2704 And P0771 - Built On Or Before 15-May-2024****24-2142**

24 May 2024

This bulletin supersedes 23-2376. Reason for update: update the Part List and the Service Procedure.

Model:

Ford 2022 Super Duty	Built on or before 15-May-2024 Engine: 6.7L Diesel Transmission: 10R140 transmission
2023-2024 F-Super Duty	Built on or before 15-May-2024 Engine: 6.7L Diesel Transmission: 10R140 transmission

Markets: North American markets only

Issue: Some 2022-2024 F-550 and F-600 F-Super Duty vehicles equipped with a 10R140 automatic transmission and 6.7L diesel engine may exhibit an illuminated powertrain malfunction (wrench) indicator with DTCs P2704 and P0771 stored in the TCM with poor shift quality and over 5,000 miles (8,000 km) in service. This may be due to wear between the input shaft and the E clutch hub causing the input shaft O-rings to become damaged resulting in an open E clutch circuit. To correct this condition, follow the Service Procedure to replace the E clutch hub, install the new E clutch washer, and input shaft O-rings.

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

- 2022-2024 F-550 or F-600 F-Super Duty
- Built on or before 15-May-2024
- 6.7L Diesel Engine
- 10R140 Automatic Transmission
- DTCs P2704 and P0771 stored in the TCM
- Over 5,000 miles (8,000 km)

Parts

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
LC3Z-7H223-A	16	16	1	Front Support Bolt Washers
LC3Z-7B031-B	1	1	1	Front Support To Case Seal
LC3Z-7A248-A	1	1	1	Torque Converter Hub Seal
LC3Z-7G091-D	2	2	1	Input Shaft Torque Converter (F0) Teflon Seals
LC3Z-7G091-C	3	3	1	Input Shaft Seal (F9)
LC3Z-7G091-B	7	7	1	Input Shaft Front (F2) Teflon Seals
LC3Z-7B399-A	5	5	1	Sun Gear Number 3 Shaft (F7) Seals

LC3Z-7G091-A	5	5	1	Input Shaft (F8) Seals
LC3Z-7G242-C	2	2	1	Input Shaft Small O-Ring Seal
LC3Z-7G242-D	1	1	1	Input Shaft Large O-Ring Seal
LC3Z-7A262-F	1	1	1	E Clutch Piston
LC3Z-7F227-A	1	1	1	E Clutch Balance Dam Outer Seal
LC3Z-7G242-A	1	1	1	E Clutch Piston And Balance Dam Inner Seal
LC3Z-7G242-B	1	1	1	E Clutch Piston And Balance Dam Inner Seal
PC3Z-7P211-C	1	1	1	E Clutch Hub
PC3Z-7482-A	1	1	1	E Clutch Hub Washer
W715131-S442	1	1	4	Transmission Fluid Cooler Tube Bolt
W714824-S442	2	1	4	Selector Lever Cable Bracket Bolts
W715618-S437	6	2	4	Torque Converter Nuts
W718005-S900	2	1	2	Exhaust Lower Downpipe To Catalyst And Particulate Filter Assembly Bolts
W710356-S439	2	1	4	Crossmember Bracket Bolts
W520515-S440	2	1	4	Crossmember Bracket Nuts
W709771-S440	2	2	1	Transmission Mount Insulator Nuts
N605804-S439	4	1	4	Transmission Support Insulator Bracket Bolts (RWD ONLY)
391558-S102	2	2	1	Transmission Support Insulator Bolts
N605804-S439	11	3	4	Transfer Case To Transmission Bolts (4X4 ONLY)
E4HZ-4A254-B	2	2	1	Front Driveshaft Pinion Flange Strap (4X4 ONLY)
F81Z-4N272-AA	4	1	4	Front Driveshaft Pinion Flange Bolts
N811880-S100	4	1	4	Front Driveshaft CV Joint To Transfer Case Flange (4X4 ONLY)
XT-10-QLVC	As Needed (Up To 2)	As Needed (Up To 2)	1	Motorcraft Mercon LV Automatic Transmission Fluid (Transfer Case Fluid, 4X4 Only) (ALL MARKETS EX CAN)
CXT-10-LV6	As Needed (Up To 2)	As Needed (Up To 2)	1	Motorcraft Mercon LV Automatic Transmission Fluid (Transfer Case Fluid, 4X4 Only) (CANADA ONLY)
XT-12-QULV	As Needed (Up To 19)	As Needed (Up To 19)	1	Motorcraft Mercon ULV Automatic Transmission Fluid
XL-5-A	As Needed (Up to 1)	As Needed (Up to 1)	1	Motorcraft Multi-Purpose Grease Spray

Parts - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
LC3Z-7B164-C	4	4	1	E Clutch Friction Plates
LC3Z-7B442-E	4	4	1	E Clutch Steel Plates
LC3Z-7B066-B	1	1	1	E Clutch Select Fit Pressure Plate
LC3Z-7B066-C	1	1	1	E Clutch Select Fit Pressure Plate
LC3Z-7B066-D	1	1	1	E Clutch Select Fit Pressure Plate
LC3Z-7B066-E	1	1	1	E Clutch Select Fit Pressure Plate
LC3Z-7F396-C	1	1	1	Fluid Pan Gasket
LC3Z-7N265-A	1	1	1	Main Control Manifold Seal
LC3Z-7G186-A	1	1	1	Transmission Fluid Filter
LC3Z-7N265-B	1	1	1	Fluid Pump Gasket
F2AZ-6397-A	2	2	1	Dowel Pins
LC3Z-7J227-A	4	4	1	Transmission Fluid Cooler O-Ring Seals
LC3Z-7A527-A	1	1	1	Selective Shim (T3)
LC3Z-7A527-B	1	1	1	Selective Shim (T3)
LC3Z-7A527-C	1	1	1	Selective Shim (T3)
LC3Z-7A527-D	1	1	1	Selective Shim (T3)
LC3Z-7A527-E	1	1	1	Selective Shim (T3)
LC3Z-7A527-F	1	1	1	Selective Shim (T3)
LC3Z-7A527-G	1	1	1	Selective Shim (T3)
LC3Z-7A527-H	1	1	1	Selective Shim (T3)
LC3Z-7A527-J	1	1	1	Selective Shim (T3)
LC3Z-7A527-K	1	1	1	Selective Shim (T3)
LC3Z-7A527-L	1	1	1	Selective Shim (T3)
LC3Z-7A527-M	1	1	1	Selective Shim (T3)

Parts - Rear Driveshaft Bolts And Straps - Not All Vehicles Will Use All Of The Parts Listed

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
F1HZ-4N272-A	4 Pieces Required Per Affected Joint	4 Pieces Required Per Affected Joint	1	U-Joint Strap Style Bolts - Refer To The Parts Catalog For The VIN Specific Application
E4HZ-4A254-A	2 Pieces Required Per Affected Joint	2 Pieces Required Per Affected Joint	1	U-Joint Straps - Refer To The Parts Catalog For The VIN Specific Application
N811880-S100	4 Pieces Required Per Affected Joint	1 Pieces Required Per Affected Joint	4	U-Joint Flange Style Bolts - Refer To The Parts Catalog For The VIN Specific Application
BC3Z-4N272-A	2 Pieces Required Per Affected Joint	2 Pieces Required Per Affected Joint	1	Driveshaft Center Bearing Bolts - Refer To The Parts Catalog For The VIN Specific Application

Claim Quantity refers to the total number of individual pieces required to repair the vehicle.

Package Order Quantity refers to the amount of the service part number package(s) required to repair the vehicle.

Number In Package refers to the number of individual pieces included in a service part number package.

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.

Only If Necessary indicates the part is not mandatory.

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

Labor Times

Description	Operation No.	Time
2022-2024 F-Super Duty F550/F600 4X2 6.7L 10R140: Retrieve DTCs, Verify Mileage and Replace The E Clutch Hub And Input Shaft O-Rings Following The Service Procedure (Do Not Use With Any Other Labor Operations)	242142A	10.2 Hrs.
2022-2024 F-Super Duty F550/F600 4X4 6.7L 10R140: Retrieve DTCs, Verify Mileage and Replace The E Clutch Hub And Input Shaft O-Rings Following The Service Procedure (Do Not Use With Any Other Labor Operations)	242142B	11.4 Hrs.

Repair/Claim Coding

Causal Part:	7P211
Condition Code:	30

Service Procedure

1. Remove the transmission. Refer to WSM, Section 307-01.
2. Disassemble the transmission. Perform only the necessary steps to remove the E clutch assembly from the transmission case. Refer to WSM, Section 307-01 > Overhaul.
 - (1). It is only necessary to remove the following:
 - Torque converter
 - Main control assembly
 - All 4 speed sensors (ISS A [ISSA], ISS B [ISSB], TSS, and OSS)
 - Fluid pump
 - Front support
 - Clutch and planetary assembly
3. Disassemble the clutch and planetary assembly. Perform only the necessary steps to remove the E clutch assembly from the input shaft. Refer to WSM, Section 307-01 > Overhaul.
4. Disassemble the E clutch. Discard the E clutch hub. Refer to WSM, Section 307-01 > Overhaul, Steps 170 to 181.
5. Reassemble the E clutch into the new E clutch hub. Refer to WSM, Section 307-01 > Overhaul, Steps 182 to 189.
6. Perform the E clutch clearance measurement. Refer to WSM, Section 307-01 > Overhaul.



CAUTION: The new E clutch hub washer must be installed.

7. To reassemble the clutch and planetary assembly, reverse the removal procedure. Refer to WSM, Section 307-01 > Overhaul.
8. Perform the T3 thrust bearing measurement to set transmission front end clearance. Refer to WSM, Section 307-01 > Overhaul.
9. Reassemble the transmission. Refer to WSM, Section 307-01 > Overhaul.
10. Install the transmission. Refer to WSM, Section 307-01.
11. Perform an adaptive learning drive cycle. Refer to WSM, Section 307-01.

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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