



TECHNICAL SERVICE BULLETIN

6.2L/7.3L – 10R140 - Illuminated Powertrain Malfunction (Wrench) Indicator With DTC P07F7 And Loss Of 10th Gear

23-2160

22 May 2023

This bulletin supersedes 21-2323. Reason for update: Remove the vehicle production fix date

Model:

Ford 2020 F-Super Duty	Engine: 6.2L/7.3L Transmission/Transaxle: 10R140
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Summary

This article supersedes TSB 21-2323 to remove the vehicle production fix date.

Issue: Some 2020 F-Super Duty vehicles equipped with a 6.2L or 7.3L engine and a 10R140 transmission may exhibit an illuminated powertrain malfunction (wrench) indicator with diagnostic trouble code (DTC) P07F7 stored in the powertrain control module (PCM) and a loss of 10th gear. The vehicle may also exhibit harsh engagements and poor shift quality. This may be due to the sleeve in the CDF clutch cylinder shifting axially causing hydraulic circuit leaks. To correct the condition, follow the Service Procedure to replace the CDF clutch cylinder.

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

- 2020 F-Super Duty
- 6.2/7.3L gas engine
- DTC P07F7 stored in the PCM
- Loss of 10th gear

Parts

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
LC3Z-7H351-B	1	CDF Clutch Cylinder	1	1
W715618-S437	1	Torque Converter Nuts	4	4
W714824-S442	1	Selector Cable Bracket Bolts	4	2
391558-S102	2	Transmission Support Insulator Bolts	1	2
N605804-S439	3	Transfer Case To Transmission Bolts	4	11
W520514-S440	4	Right And Left Y-pipe To Exhaust Manifold Nuts	1	4
W715131-S442	1	Transmission Fluid Cooler Tube Bolt	4	1
F81Z-4N272-AA	1	Front Driveshaft U-joint To Pinion Retaining Strap Bolts (4WD Only)	4	4
E4HZ-4A254-B	2	Front Driveshaft U-joint To Pinion Retaining Straps (4WD Only)	1	2
N811880-S100	1	Front And Rear Driveshaft & CV Joint Flange Bolts	4	4
W709771-S440	2	Transmission Mount Support Isolator Nuts	1	2
W710356-S439	1	Crossmember Bracket Bolts	4	4
W520515-S440	1	Crossmember Bracket Nuts	4	4
W714717-S439	1	Y-pipe To Resonator Bolts (7.3L Only)	4	2
W714656-S439	1	Exhaust Hanger Bracket Bolts (7.3L Only)	4	4
N605804-S439	1	Transmission Support Insulator Bracket Bolts (2WD Only)	4	4

LC3Z-7153-A	1	Seal Kit	1	1
XT-12-QULV	As Needed	Motorcraft® MERCON® ULV Automatic Transmission Fluid		
XT-10-QLVC	As Needed	Motorcraft® MERCON® LV Automatic Transmission (Transfer Case Fluid, 4WD Only)		
TA-24-B	As Needed	Motorcraft® Thread Sealant with PTFE (4WD Only)		
VC-13-G	As Needed	Motorcraft® Yellow Concentrated Antifreeze/Coolant (All Markets Except Canada)		
CVC-13-G	As Needed	Motorcraft® Yellow Concentrated Antifreeze/Coolant (Canada Only)		
XL-5-A	As Needed	Motorcraft® Multi-Purpose Grease Spray		
TA-26	As Needed	Motorcraft® Threadlock 262		

Parts

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

Service Part Number	Quantity	Description	Unit of Issue	Piece Quantity
F1HZ-4N272-A	4 Per Affected Joint	U-Joint Strap Style Bolts - Refer To The Parts Catalog For The VIN Specific Application	1	4 Per Affected Joint
E4HZ-4A254-A	4 Per Affected Joint	U-Joint Strap Style Bolts - Refer To The Parts Catalog For The VIN Specific Application	1	4 Per Affected Joint
N811880-S100	1 Per Affected Joint	U-Joint Flange Style Bolts - Refer To The Parts Catalog For The VIN Specific Application	4	4 Per Affected Joint
BC3Z-4N272-A	1 Per Affected Joint	Driveshaft Center Bearing Bolts - Refer To Parts Catalog For The VIN Specific Application	1	1 Per Affected Joint
W500633-S439	1	Driveshaft Center Bearing Bolts - Refer To Parts Catalog For The VIN Specific Application	4	1 Required Per Affected Joint

Parts

Parts To Inspect And Replace Only If Necessary

Service Part Number	Quantity	Description
LC3Z-7J227-A	If Needed	Transmission Fluid Cooler O-ring
LC3Z-7B477-A	If Needed	C Clutch Pressure Plate
LC3Z-7B442-C	If Needed	C Clutch Separator Plates External Spline (Diesel Only)
LC3Z-7B442-D	If Needed	C Clutch Separator Plates External Spline (Gas Only)
LC3Z-7H095-A	If Needed	C Clutch Friction Plate Internal Spline
LC3Z-7H076-A	If Needed	C Clutch Snap-Ring - Selective (1.5mm)
LC3Z-7H076-B	If Needed	C Clutch Snap-Ring - Selective (1.7mm)
LC3Z-7H076-C	If Needed	C Clutch Snap-Ring - Selective (1.9mm)
LC3Z-7H076-D	If Needed	C Clutch Snap-Ring - Selective (2.1mm)
LC3Z-7H076-E	If Needed	C Clutch Snap-Ring - Selective (2.3mm)
LC3Z-7H076-F	If Needed	C Clutch Snap-Ring - Selective (2.5mm)

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.

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 6.2L 4X2: Replace The CDF Cylinder Following The Service Procedure (Do Not Use With Any Other Labor Operations)	232160A	9.8 Hrs.
2020 F-Super Duty 6.2L 4X4: Replace The CDF Cylinder Following The Service Procedure (Do Not Use With Any Other Labor Operations)	232160B	11.3 Hrs.
2020 F-Super Duty 7.3L 4X2: Replace The CDF Cylinder Following The Service Procedure (Do Not Use With Any Other Labor Operations)	232160C	9.6 Hrs.
2020 F-Super Duty 7.3L 4X4: Replace The CDF Cylinder Following The Service Procedure (Do Not Use With Any Other Labor Operations)	232160D	11.3 Hrs.

Repair/Claim Coding

Causal Part:	7H351
Condition Code:	17

Service Procedure

1. Remove the transmission. Refer to Workshop Manual (WSM), Section 307-01.

NOTE: For 7.3L applications, do not discard the W714565-S439 exhaust hanger bracket bolts during transmission removal.

2. Disassemble the transmission. Perform only the necessary steps to remove the clutch and planetary 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 (intermediate speed sensor A [ISSA], intermediate speed sensor B [ISSB], turbine shaft speed [TSS] and output shaft speed [OSS])
- Fluid pump
- Front support
- Clutch and planetary assembly

3. Disassemble the clutch and planetary assembly. Perform only the necessary steps to remove the CDF clutch cylinder from the clutch and planetary assembly. Refer to WSM, Section 307-01 > Overhaul.

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

- A clutch assembly
- T3 thrust bearing and shim
- Clutch and planetary container cylinder
- E clutch and input shaft assembly
- Number 3 planetary carrier and number 3 sun gear
- Number 3 sun gear shaft and number 2 ring gear assembly

4. Disassemble the C, D and F clutch assemblies from the CDF cylinder. Discard the CDF cylinder.

5. Assemble the C, D and F clutch assemblies into the new CDF clutch cylinder.
6. Perform the C, D and F clutch pack endplay measurements for proper clearance.
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.
9. Reassemble the transmission starting at Step 299 in WSM, Section 307-01 > Overhaul.
10. Install the transmission. Refer to WSM, Section 307-01.

NOTE: For 7.3L applications, if the exhaust hanger bracket bolts are not available, apply Motorcraft® Threadlock 262 to the threads and reuse the exhaust hanger bracket bolts.

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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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.