



TECHNICAL SERVICE BULLETIN

Illuminated MIL With DTC P0420 And/Or P0430 Stored In The PCM

25-2233
29 May 2025

This bulletin supersedes 24-2124. Reason for update: change the labor operation from actual time to fixed time

Model:

Ford 2022-2023 F-150	Engine: 3.5L PowerBoost
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Markets: North American markets only

Issue: Some of the vehicles listed in the Model statement above may exhibit an illuminated MIL with DTCs P0420 and/or P0430 stored in the PCM. This may be due to calibration and controls sensitivity.

Action: For vehicles that meet all of the criteria in the Issue and Model statements, follow the Service Procedure to reprogram the PCM and perform the catalyst stabilization drive cycle.

Parts - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
W705443-S900	Only If Necessary (4 Possible)	Only If Necessary (1 Possible)	4	Catalytic Converter Nut
NL3Z-5E212-G	Only If Necessary (1 Possible)	Only If Necessary (1 Possible)	1	Left Catalytic Converter
NL3Z-5E212-H	Only If Necessary (1 Possible)	Only If Necessary (1 Possible)	1	Right Catalytic Converter
PL3Z-5C226-A	Only If Necessary (1 Per Catalytic Converter Replaced)	Only If Necessary (1 Per Catalytic Converter Replaced)	1	Exhaust System Gasket
W520114-S442	Only If Necessary (4 Possible)	Only If Necessary (1 Possible)	4	Transmission Support Crossmember Nuts
W714418-S439	Only If Necessary (4 Possible)	Only If Necessary (1 Possible)	4	Transmission Support Crossmember Bolts
W709771-S440	Only If Necessary (2 Possible)	Only If Necessary (2 Possible)	1	Transmission Mount Nuts
W500120-S439	Only If Necessary (3 Possible)	Only If Necessary (1 Possible)	4	Transmission Support Insulator Bolts (RWD only)
W718926-S900	Only If Necessary (4 Possible)	Only If Necessary (1 Possible)	4	Transmission Support Insulator Bolts (4WD only)
W714717-S439	Only If Necessary (2 Possible)	Only If Necessary (1 Possible)	4	Muffler Inlet Pipe Bolts
ML3Z-6775-K	Only If Necessary (1 Possible)	Only If Necessary (1 Possible)	1	Self-adhesive Heat Shield Material
XL-2	Only If Necessary	Only If Necessary		Motorcraft® High Temperature Nickel Anti-Seize Lubricant
XL-1	Only If Necessary	Only If Necessary		Motorcraft® Penetrating and Lock Lubricant
VC-13-G	Only If Necessary	Only If Necessary		Motorcraft® Yellow Concentrated Antifreeze/Coolant (All Markets Except Canada)

CVC-13-G	Only If Necessary	Only If Necessary		Motorcraft® Yellow Concentrated Antifreeze/Coolant (Canada Only)
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Service part numbers and "number in package" quantity may change after publication, thus also affecting the "package order quantity". Refer to the parts catalog for the latest information.

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.

Only If Necessary indicates the part is not mandatory. Refer to the Service Procedure to determine the inspection/inclusion criteria.

Warranty Status: Eligible under provisions of New Vehicle Limited Warranty (NVLW)/Emissions Warranty/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/Emissions Warranty/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
2022-2023 F-150 3.5L PowerBoost: Perform Diagnosis, Includes Time To Update Software In Required Modules And Perform Drive Cycles As Directed By The Service Procedure (Can Be Claimed With Or Without Operation B, C Or D)	AP252233A	Actual Time Up To 3.1 Hrs.
2022-2023 F-150 3.5L PowerBoost: Extra Time To Replace The Right Side Catalytic Converter (Can Be Claimed With Operation A)	252233B	3.0 Hrs.
2022-2023 F-150 3.5L PowerBoost: Extra Time To Replace The Left Side Catalytic Converter (Can Be Claimed With Operation A)	252233C	0.8 Hrs.
2022-2023 F-150 3.5L PowerBoost: Extra Time To Replace Both Catalytic Converters (Can Be Claimed With Operation A)	252233D	3.2 Hrs.

Repair/Claim Coding

Causal Part:	RECALEM
Condition Code:	04

Service Procedure

NOTE: Perform the catalyst stabilization drive cycle one time only. If the vehicle exhibits this condition again, proceed with the replacement of the catalytic converter(s).

1. Perform Pinpoint Test HF: Catalyst Efficiency Monitor And Exhaust Systems Steps HF1-HF6. Refer to the WSM, Section 309-00D Exhaust System - 3.5L V6 PowerBoost (CN), Diagnosis and Testing, Catalyst System.
2. Is the concern still present?
 - (1). Yes - proceed to Step 3.
 - (2). No - this article does not apply.
3. Retrieve OBD mode 6 data from the FDRS and record oxygen storage values from both banks.
4. Reprogram the PCM using the latest software level of the FDRS diagnostic scan tool. Follow all on-screen instructions carefully to complete all required coordinated module software update(s), including:
 - SOBDMC
 - ABS module
 - BECM

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.

5. Perform the following catalyst stabilization drive cycle.

- (1). Warm up the engine to its normal operating temperature.
- (2). Identify an appropriate route to allow speeds around 70 mph (113 km/h).
- (3). From 30 mph (48 km/h) or slower, accelerate at WOT until the vehicle reaches 65 mph (105 km/h).
- (4). Place the transmission into M.
- (5). Select 4th gear.
- (6). For at least 45 minutes, perform periodic, repeated medium (25%-50% throttle) acceleration / closed pedal (foot off throttle) deceleration events driving alternately between 60 mph and 70 mph (97 km/h and 113 km/h).

6. Take the transmission out of M. Drive the vehicle normally at 55-65 mph (88-105 km/h) for 15 minutes.

7. Clear DTCs P0420 and/or P0430 stored in the PCM. This resets the mode 6 data to zero.

8. Run a catalyst monitor drive cycle. Refer to Pinpoint Test HF: Catalyst Efficiency Monitor And Exhaust Systems Step HF12 > On Board Diagnostics (OBD) Drive Cycle.

9. Retrieve OBD mode 6 data after the catalyst oxygen storage values have been populated. Have the oxygen storage values decreased from what was recorded in Step 3 and are they less than 0.4 on affected bank(s)?

- (1). Yes - repair is complete.
- (2). No - replace the catalytic converter(s) on the affected bank(s) that has a value greater than 0.4. Refer to the WSM, Section 309-00 > Exhaust System > Removal and Installation > Catalytic Converter.

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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.