



TECHNICAL SERVICE BULLETIN

Illuminated Powertrain Malfunction (Wrench) Indicator With DTCs C00A6 And/Or C0631

25-2373

22 August
2025

This bulletin supersedes 23-2174. Reason for update: update the Service Procedure, Part List and add an additional labor operation.

Model:

Ford 2020-2021 Explorer	<u>AWD</u> Built on or before 30-Aug-2021
Lincoln 2020-2021 Aviator	<u>AWD</u> Built on or before 30-Aug-2021

Markets: North American markets only

Issue: Some vehicles listed in the model statement above may exhibit an illuminated powertrain malfunction (wrench) indicator with DTCs C00A6 and/or C0631. This may be due to the front axle disconnect actuator/intermediate shaft.

Action: For vehicles that meet all of the criteria in the issue and model statement above, follow the Service Procedure to replace the front axle disconnect actuator/intermediate shaft with a revised intermediate shaft.

Parts

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
LB5Z-3B477-A	1	1	1	Wheel Hub Nut
W715932-S439	2	1	4	Lower Strut-to-wheel Knuckle Bolt
W520517-S440	2	1	4	Lower Strut-to-wheel Knuckle Nut
W719506-S440	2 For Explorer, 3.0L EcoBoost/EcoBoost Hybrid, 1 For All Others	1	4	Upper Stabilizer Bar Link Nut
W717521-S440	1	1	1	Engine Mount Nut
W719326-S439	4	1	4	Engine Mount Bolt
N1MZ-3A329-A	1	1	1	Intermediate Shaft
N1MZ-3A427-F	1	1	1	Halfshaft
L1MZ-4382-C	1	1	1	Engine Mount Bolt
W720050-S440	1	1	4	Control Arm Nut (Aviator)
W719503-S439	1	1	4	Control Arm Bolt (Aviator)
W711310-S440	1	1	4	Control Arm Nut (Aviator)

W520216-S440	1	1	4	Control Arm Nut (Aviator)
N1MZ-3B476-A	1	1	1	Front Axle Assembly Breather Hose
W712961-S439	1	1	2	Steering Shaft Bolt (3.0L)
W716979-S439	2	1	4	Rear Subframe Bolt (3.0L)
W719413-S439	4	1	4	Subframe Bolts Mid/Front (3.0L)
1X4Z-9E936-AA	1	1	1	Throttle Body Gasket (3.0L)
XY-75W140-QL	As Needed	As Needed		Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant (All Markets Except Canada)
CXY-75W140-1L	As Needed	As Needed		Motorcraft® SAE 75W-140 Synthetic Rear Axle Lubricant (Canada Only)
XT-12-QULV	As Needed	As Needed		Motorcraft® MERCON® ULV Automatic Transmission Fluid
VC-13-G	As Needed	As Needed		Motorcraft® Yellow Concentrated Antifreeze/Coolant (All Markets Except Canada)
CVC-13-G	As Needed	As Needed		Motorcraft® Yellow Concentrated Antifreeze/Coolant (Canada Only)

Parts - Parts To Inspect And Replace Only If Necessary

Service Part Number	Claim Quantity	Package Order Quantity	Number in Package	Description
WA-14-SBA	Only If Necessary	Only If Necessary	50	Motorcraft® Zip Tie Strap
3U2Z-14A088-AB	Only If Necessary	Only If Necessary	1	Motorcraft® Wire Splice Kit
L1MZ-6758-A	Only If Necessary	Only If Necessary	1	Tube Assembly (3.0L)
5L7Z-7D285-A	Only If Necessary	Only If Necessary	2	Transmission Fluid Cooler Tube Seals (3.0L)
5L7Z-7J324-A	Only If Necessary	Only If Necessary	2	Fluid Cooler Tube Backing Rings
W715131-S442	Only If Necessary	Only If Necessary	4	Cooler Tube Bolt (10R80 Only)

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.

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.

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
2020-2021 Explorer 4WD 2.3L EcoBoost: Retrieve DTCs And Install Intermediate Shaft Assembly (Do Not Use With Any Other Labor Operations)	252373A	2.0 Hrs.
2020-2021 Explorer 4WD 3.3L TiVCT, 3.3L Hybrid: Retrieve DTCs And Install Intermediate Shaft Assembly (Do Not Use With Any Other Labor Operations)	252373B	2.6 Hrs.
2020-2021 Explorer 4WD 3.0L EcoBoost: Retrieve DTCs And Install Intermediate Shaft Assembly (Can Be Claimed With Operation E Or F And G) (Do Not Use With Any Other Labor Operations Outside Of This Article)	252373C	7.2 Hrs.
2020-2021 Aviator AWD 3.0L EcoBoost 3.0L PHEV: Retrieve DTCs And Install Intermediate Shaft Assembly (Can Be Claimed With Operation E Or F) (Do Not Use With Any Other Labor Operations Outside Of This Article)	252373D	7.8 Hrs.
Additional Time To Check And Correct Caster/Camber And Front Toe (Can Be Claimed With Operation C Or D And G)	252373E	1.1 Hrs.
Additional Time To Check And Correct Caster/Camber And Front Toe For Vehicles With Lane Departure (Can Be Claimed With Operation C Or D And G)	252373F	1.3 Hrs.
2020-2021 Explorer 4WD 3.0L 10R80 Only: Additional Time To Remove/Install Transmission Tubes Between The Transmission And The Cooler Bypass Valve, Includes Time Check And Top Off Transmission fluid (Can Be Claimed With E Or F And C)	252373G	0.8 Hrs.

Repair/Claim Coding

Causal Part:	3D102
Condition Code:	42

Service Procedure

NOTE: The vehicle may have either front axle disconnect actuator with an operational electrical connector or may have an intermediate shaft that is essentially a front axle disconnect actuator that does not have the connection being utilized. The service replacement intermediate shaft has a different look and design but the fit and function are the same.

2.3L / 3.0L Vehicles

1. Disconnect the battery. Refer to WSM, Section 414-01.
2. Is the vehicle equipped with a 10R80 transmission?
 - (1). Yes - remove the transmission cooler tubes. Refer to WSM, Section 307-02B and proceed to Step 3.

NOTE: The cooler bypass valve assembly does not need to be removed.

- (2). No - proceed to Step 3.
3. Remove the front axle disconnect actuator and discard. Refer to WSM, Section 205-03.
4. Is the vehicle equipped with a front axle disconnect actuator electrical connector?
 - (1). Yes - proceed to Step 5.
 - (2). No - proceed to Step 7.
5. Cut off and discard the front axle disconnect actuator electrical connector from the pigtail wiring. Make sure enough wire is left to install the shrink tubing to properly terminate the wiring.
6. Install 1 shrink tube on 1 wire from the pigtail. Heat the shrink tube until the adhesive protrudes from both ends. Using a pair of pliers, gently crimp both ends of the shrink tube to make sure the shrink tube is secure. Repeat the process on the remaining 3 wires.

7. Replace the differential breather tube with the front axle assembly breather hose. Refer to 2021 WSM, Section 205-03, Removal and Installation, Differential Breather Tube.
8. Install the new service replacement intermediate shaft in place of the front axle disconnect actuator/intermediate shaft and re-assemble. Re-use the fasteners. Refer to the 2021 WSM, Section 205-04, Removal and Installation, Intermediate Shaft - Vehicles Built From: 31-August-2021.
 - (1). Tighten to 26 lb-ft (35 Nm).
9. Use the Motorcraft® Zip Tie Strap to make sure the battery cable is secured away from any rotating intermediate shaft components.
10. Install the new halfshaft. Refer to the 2021 WSM, Section 205-04, Removal And Installation, Halfshaft - Vehicles Built From: 31-August-2021.
11. Set the axle fluid level.
12. Vehicles equipped with 10R80 transmission only, reset the transmission fluid level. Refer to WSM, Section 307-01B.
13. Update the AWD module software to the latest level and clear all DTCs.

3.3L Vehicles

1. Disconnect the battery. Refer to WSM, Section 414-01.
2. Remove both front wheels. Refer to WSM, Section 204-04A.
3. Remove and discard the front stabilizer bar link upper nut on both sides.
4. Remove and discard the left halfshaft. Refer to WSM, Section 205-04.
5. Remove the transmission cooler hose bracket nut.
6. Remove the catalyst assembly bracket, studs and nuts.
7. Place a support under the transmission bellhousing.
8. Remove the left lower engine mount nut from the subframe.
9. Using a support jack, slightly raise the engine.
10. Remove all 4 left engine mount to engine fasteners. Position the engine mount aside.
11. If equipped, disconnect the front axle disconnect actuator electrical connector and axle vent tube assembly.
12. Remove all 3 front axle disconnect actuator/intermediate shaft fasteners. Remove and discard the front axle disconnect actuator/intermediate shaft.
 - (1). For vehicles with a front axle disconnect actuator, refer to 2020 WSM, Section 205-03.
 - (2). For vehicles with an intermediate shaft, refer to 2021 WSM, Section 205-04.
13. Is the vehicle equipped with a front axle disconnect actuator electrical connector?
 - (1). Yes - proceed to Step 14.
 - (2). No - proceed to Step 16.
14. Cut off and discard the front axle disconnect actuator electrical connector from the pigtail wiring. Make sure enough wire is left to install the shrink tubing to properly terminate the wiring.
15. Install 1 shrink tube on 1 wire from pigtail. Heat shrink the tube until adhesive protrudes from both ends. Using a pair of pliers, gently crimp both ends of the shrink tube to make sure the shrink tube is secure. Repeat the process on the remaining 3 wires.
16. Replace the differential breather tube with the front axle assembly breather hose. Refer to 2021 WSM, Section 205-03, Removal and Installation, Differential Breather Tube.
17. Install the new service replacement intermediate shaft in place of the front axle disconnect actuator/intermediate shaft and re-assemble. Re-use the fasteners. Refer to the 2021 WSM, Section 205-04, Removal and Installation, Intermediate Shaft - Vehicles Built From: 31-August-2021.
 - (1). Tighten to 26 lb-ft (35 Nm).
18. Use the Motorcraft® Zip Tie Strap to make sure the battery cable is secured away from any rotating intermediate shaft components.

- 19.** Install the left engine mount.
 - (1). Tighten the new engine mount fasteners to 47 lb-ft (63 Nm).
 - (2). Remove the jack supporting the engine.
 - (3). Install the new left lower engine mount nut to the subframe. Tighten to 185 lb-ft (250 Nm).
- 20.** Install the catalyst assembly bracket, studs and nuts. Tighten to 18 lb-ft (25 Nm).
- 21.** Install the transmission cooler hose bracket nut. Tighten to 80 lb-in (9 Nm).
- 22.** Install the front stabilizer bar link upper nut on both sides. Tighten to 129 lb-ft (175 Nm)
- 23.** Install the new service replacement halfshaft. Refer to the 2021 WSM, Section 205-04, Removal And Installation, Halfshaft - Vehicles Built From: 31-August-2021.
- 24.** Install both front wheels. Refer to WSM, Section 204-04A.
- 25.** Set the axle fluid level.
- 26.** Update the DTCs module software to the latest level and clear all DTCs.

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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.