



# Technical Service Bulletin

SUBJECT:		NO.: <b>TSB-23-13-001</b>	
<b>CORRECTION TO THE DESCRIPTION OF ENGINE WARNING MESSAGE – SERVICE MANUAL REVISION</b>		DATE: <b>March 2023</b>	
		MODEL: <b>2022-23 Outlander</b>	
<b>CIRCULATE TO:</b>	<input type="checkbox"/> GENERAL MANAGER	<input checked="" type="checkbox"/> PARTS MANAGER	<input checked="" type="checkbox"/> TECHNICIAN
<input checked="" type="checkbox"/> SERVICE ADVISOR	<input checked="" type="checkbox"/> SERVICE MANAGER	<input checked="" type="checkbox"/> WARRANTY PROCESSOR	<input type="checkbox"/> SALES MANAGER

## PURPOSE

This TSB provides correction to the description for the Engine Control System section of the Service Manual.

## AFFECTED VEHICLES

- 2022-2023 Outlander

## AFFECTED SERVICE MANUAL

- 2022-2023 Outlander Service Manual

## PROCEDURE

Please use the attached chart as a guide to replace the indicated pages of the affected Service Manual, Group 13 Engine Control System.



Copyright 2023, Mitsubishi Motors North America, Inc.

The information contained in this bulletin is subject to change. For the latest version of this document, go to the Mitsubishi Dealer Link, MEDIC, or the Mitsubishi Service Information website ([www.mitsubishitechinfo.com](http://www.mitsubishitechinfo.com)).

**OUTLANDER**

Applicable manual	Pub. No.	Applicable title	Content
2022 OUTLANDER Service Manual	MSCD-330B-2022 (Volume 2)	ENGINE └ ENGINE CONTROL SYSTEM └ PR25DD └ SYSTEM DESCRIPTION └ SYSTEM └ ENGINE WARNING └ System Description	Attached sheet 2
		ENGINE └ ENGINE CONTROL SYSTEM └ PR25DD └ SYSTEM DESCRIPTION └ DIAGNOSIS SYSTEM (ECM) └ DIAGNOSIS DESCRIPTION └ DITC and Freeze Frame Data	Attached sheet 3
2023 OUTLANDER Service Manual	MSCD-030B-2023	ENGINE └ ENGINE CONTROL SYSTEM └ PR25DD └ SYSTEM DESCRIPTION └ SYSTEM └ ENGINE WARNING └ System Description	Attached sheet 2
		ENGINE └ ENGINE CONTROL SYSTEM └ PR25DD └ SYSTEM DESCRIPTION └ DIAGNOSIS SYSTEM (ECM) └ DIAGNOSIS DESCRIPTION └ DITC and Freeze Frame Data	Attached sheet 3

ENGINE CONTROL SYSTEM


ENGINE WARNING

System Description

DESIGN/PURPOSE

Warn the driver that the state of the engine.

<Incorrect>

Symbol	Message
 <p>Warning</p> <p>CF1009X7AA00USA</p>	<ul style="list-style-type: none"> <li>• Engine Stalled Stop safely</li> <li>• Engine Malfunction Power reduced Service now</li> <li>• Engine Malfunction Service now</li> <li>• Engine hot Power reduced</li> </ul>

<Correct>

Message	Remarks
<ul style="list-style-type: none"> <li>• Engine Stalled Stop safely</li> </ul>	<p>Check it according to Startability Confirmation Procedure.</p>
<ul style="list-style-type: none"> <li>• Engine Malfunction Power reduced Service now</li> <li>• Engine Malfunction Service now</li> </ul>	<ul style="list-style-type: none"> <li>• Check it according to DTC Diagnosis Procedure.</li> <li>• Even in the case of DTCs to be confirmed in the 2nd trip, this warning may be displayed by the 1st trip DTCs and the DTCs may be stored in the ECM memory. Then, if the system is determined to be normal in the 2nd trip, this warning will disappear and the 1st trip DTCs will be cleared.</li> </ul>

## ENGINE CONTROL SYSTEM

### DTC and Freeze Frame Data

#### DTC AND 1ST TRIP DTC <Added>

The 1st trip DTC (whose number is the same as the DTC number) is displayed for the latest self-diagnostic result obtained. If the ECM memory was cleared previously, and the 1st trip DTC did not recur, the 1st trip DTC will not be displayed.

If a malfunction is detected during the 1st trip, the 1st trip DTC is saved in the ECM memory. The MIL will not light up (two trip detection logic). If the same malfunction is not detected in the 2nd trip (meeting the required driving pattern), the 1st trip DTC is cleared from the ECM memory. If the same malfunction is detected in the 2nd trip, both the 1st trip DTC and DTC are saved in the ECM memory and the MIL lights up. In other words, the DTC is stored in the ECM memory and the MIL lights up when the same malfunction occurs in two consecutive trips. If a 1st trip DTC is stored and a non-diagnostic operation is performed between the 1st and 2nd trips, only the 1st trip DTC will continue to be stored. For malfunctions that blink or light up the MIL during the 1st trip, the DTC and 1st trip DTC are stored in the ECM memory.

For malfunctions in which 1st trip DTCs are displayed, Refer to [DTC Index](#). These items are required by legal regulations to continuously monitor the system/component. In addition, the items monitored non-continuously are also displayed on M.U.T.-III SE.

1st trip DTC is specified in Service \$07 of SAE J1979/ISO 15031-5. 1st trip DTC detection occurs without illuminating the MIL and therefore does not warn the driver of a malfunction.

When a 1st trip DTC is detected, check, print out or write down and erase (1st trip) DTC and Freeze Frame data as specified in Work Flow procedure Step 2, Refer to [Work Flow](#). Then perform DTC Confirmation Procedure or Component Function Check to try to duplicate the malfunction. If the malfunction is duplicated, the item requires repair.

### FREEZE FRAME DATA AND 1ST TRIP FREEZE FRAME DATA

The ECM records the driving conditions such as fuel system status, calculated load value, engine coolant temperature, short term fuel trim, long term fuel trim, engine speed, vehicle speed, absolute throttle position, base fuel schedule and intake air temperature at the moment a malfunction is detected.

Data which are stored in the ECM memory, along with the 1st trip DTC, are called 1st trip freeze frame data. The data, stored together with the DTC data, are called freeze frame data and displayed on M.U.T.-III SE or GST.

Only one set of freeze frame data (either 1st trip freeze frame data or freeze frame data) can be stored in the ECM. 1st trip freeze frame data is stored in the ECM memory along with the 1st trip DTC. However, once freeze frame data (2nd trip detection/MIL on) is stored in the ECM memory, 1st trip freeze frame data is no longer stored. Remember, only one set of freeze frame data can be stored in the ECM. The ECM has the following priorities to update the data.

Priority	Items	
1	Freeze frame data	Misfire — DTC: P0300 – P0304
		Fuel Injection System Function — DTC: P0171, P0172
2		Except the above items
3	1st trip freeze frame data	

For example, the EGR malfunction (Priority: 2) was detected and the freeze frame data was saved in the 2nd trip. After that when the misfire (Priority: 1) is detected in another trip, the freeze frame data will be updated from the EGR malfunction to the misfire. Once freeze frame data is stored in the ECM memory, 1st trip freeze data is no longer stored (because only one freeze frame data or 1st trip freeze frame data can be stored in the ECM). If freeze frame data is stored in the ECM memory and freeze frame data with the same priority occurs later, the first (original) freeze frame data remains unchanged in the ECM memory.

Both 1st trip freeze frame data and freeze frame data (along with the DTCs) are cleared when the ECM memory is erased.

### Driving Pattern

#### CAUTION:

Always drive at a safe speed.

### DRIVING PATTERN A

Driving pattern A means a trip satisfying the following conditions.

- Engine speed reaches 400 rpm or more.
- Engine coolant temperature rises by 20°C (36°F) or more after starting the engine.
- Engine coolant temperature reaches 70°C (158°F) or more.
- The ignition switch is turned from ON to OFF.



#### NOTE:

- When the same malfunction is detected regardless of driving conditions, reset the counter of driving pattern A.
- When the above conditions are satisfied without detecting the same malfunction, reset the counter of driving pattern A.