Model:

Ford
2013-2018 C-MAX Hybrid
2008-2012 Crown Victoria
2008-2019 E-Series
2008-2019 Edge
2008-2019 Escape
2008-2019 Expedition
2008-2019 Explorer
2008-2011 Explorer Sport Trac
2008-2019 F-150
2008-2019 F-Super Duty
2016-2019 F-650/750
2008-2009 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis
2011-2019 F-53 Motorhome Chassis / F-59 Commercial Stripped Chassis
2011-2019 Fiesta
2008-2009 Five Hundred
2009-2019 Flex
2008-2018 Focus
2008-2019 Fusion
2008-2019 Mustang
2010-2019 Police Interceptor - Sedan
2011-2019 Police Interceptor - Utility
2008-2011 Ranger
2019 Ranger
2010-2019 Taurus
2008-2009 Taurus X
2014-2019 Transit
2013-2019 Transit Connect
Lincoln
2017-2019 Continental
2008 Mark LT
2015-2019 MKC
2009-2016 MKS
2010-2019 MKT
2008-2018 MKX
2008-2019 MKZ
2019 Nautilus
2008-2019 Navigator
2008-2011 Town Car
Mercury
2008-2011 Grand Marquis / Marauder
2008-2011 Mariner
2008-2011 Milan
2008-2009 Montego
2008-2010 Mountaineer
2008-2009 Sable

Summary

This article is intended to provide clarification on DTC P1635, the cause, how to prevent it and procedures to correct it. The procedures outlined in this bulletin are only for the Integrated Diagnostic System (IDS). This article does not apply to vehicles that are supported by the Ford Diagnosis and Repair System (FDRS).

Service Instruction

Powertrain control module (PCM) DTC P1635 indicates that the tire size or axle ratio programmed into the PCM is not correct for the PCM calibration present in the PCM. This DTC can be caused by a modified PCM calibration or a tire size or axle ratio programmed into the PCM that does not match the vehicles build information.

NOTE: Modifying a vehicle to change the axle ratio or tire size is not a supported change by Ford Motor Company unless being supported by Ford Performance or a Body Builder Advisory Service (BBAS) bulletin.

NOTE: If the tire size or axle ratio is programmed correctly into the PCM to clear a P1635 DTC but, the vehicle still has the incorrect tire size or axle ratio compared to build information, traction control system faults, ABS faults, speedometer, odometer and transmission shift timing concerns may be present.

Identifying Correct Tire Size And Axle Ratio

DTC P1635 may be set if the wrong tire size or axle ratio are programmed into the PCM as compared to what the vehicle was built with. Identifying the correct tire size and axle ratio that the vehicle was built with can be done by entering the VIN into PTS and reviewing the build sheet information and OASIS Vehicle Information.

Preventing DTC P1635 During Powertrain Control Module (PCM) Replacement

DTC P1635 is most commonly stored after incorrect programmable module installation (PMI) procedures. To prevent this DTC, follow standard PMI procedures as instructed by both the PCM removal and installation procedure in Workshop Manual (WSM), Section 303-14, and the IDS scan tool PMI instructions.

Proper PMI Instructions When Replacing The PCM:

1. With the original PCM installed in the vehicle, start a new IDS session

NOTE: If asked to resume a previous session, press the red 'x' mark on the IDS prompt or select 'none of the above' if asked to choose a session from a list.

2. When the IDS session begins, navigate to Module Programming > Programmable Module Installation > PCM.

3. Verify all prompts are reviewed thoroughly before proceeding. For example, the VIN verification prompt at the beginning of the PMI procedure may have the correct last 6 digits of the VIN but the 4th or 5th position may be wrong. This will cause incorrect programming of the PCM. Alternatively, there may be multiple similar options for tire size and axle ratio listed in IDS. Make sure all selections are reviewed for best fit.

4. When the IDS instructs to 'Install New Module', plug in and bolt down the replacement PCM per the installation procedure in WSM, Section 303-14. Once installed, continue following the IDS instructions to finish the PMI.

5. When the PMI completes, refer back to the PCM removal and installation procedure to determine if any other steps are required for replacement of the PCM.

NOTE: In cases where the repair facility programming the PCM is not the facility that replaced it, it is still required that the PMI procedure be performed as written above. If the PCM is not available, contact the repairing facility to see if it can be obtained for proper PMI procedures to be followed.

Correcting DTC P1635 When PMI Does Not Resolve The Concern

If available, programmable parameters can be located in the IDS Toolbox > Module Programming > Programmable Parameters Menu for Tire / Axle Size. Enter these parameters to match what is listed on OASIS for the VIN. Press the tick mark. Self-test the PCM to verify the P1635 DTC cleared.

An example of the available programmable parameters is shown below. These are an example only. Actual values vary by VIN.

Alternative Programming Procedures To Clear P1635

Only in situations where PMI has been performed in the above manner, there are two additional procedures that can be utilized to correct the P1635 DTC. Depending on how the vehicle is equipped will determine which procedure should be followed. If the vehicle is equipped with a body control module (BCM), refer to procedure A. If the vehicle is equipped with a generic electronic module (GEM) or smart junction box (SJB), refer to procedure B.

NOTE: To determine if vehicle is equipped with a BCM or SJB/GEM, refer to workshop manual section 419-10 > Removal and Installation. If the workshop manual lists the module as a GEM/SJB, proceed to procedure B. If it lists the module as a BCM, proceed to procedure A.

Procedure A - Correcting A P1635 On Vehicles Equipped With A BCM

1. Locate the factory tear tag from the As-Built page in OASIS.

2. Connect IDS to the vehicle and start a new session with the vehicle. It is best to use a computer with IDS that has never been used on the vehicle before or has had its IDS sessions erased. Instructions for erasing IDS sessions are later in this article.

3. When the Vehicle Specification Screen comes up and asks to verify if this is correct, answer 'no'.

4. Enter the factory tear tag into the IDS prompt and select the tick markThere will be a second vehicle confirmation screen, if correct, answer 'Yes'. If you are automatically directed to programming for the PCM, navigate to the PMI on the PCM and perform the PMI per the IDS prompts.

5. If you are not automatically directed to programming for the PCM, navigate to the PMI on the PCM and perform the PMI per the IDS prompts.

6. Following repair, document the PCM filename, ignition counter and any DTCs before and after clearing them to the Repair Order.

Procedure B - Correcting A P1635 On Vehicles Equipped With A GEM/SJB

1. Locate a laptop or tablet with the IDS scan tool installed that has not been connected to the vehicle before and does not have a previous session on it for this vehicle.

NOTE: If you do not have another machine with IDS that has not touched this vehicle, refer to Deleting Previous IDS Sessions From The Computer later in this article to delete IDS sessions from the computer before continuing to step 2 of this procedure.

2. Remove all PCM connectors and leave them disconnected until directed to reinstall them below.

3. Connect the vehicle communication module (VCM) to the vehicle and select to start a new IDS session. You will be given a 45 second bar graph and then a message that states you were not able to communicate with the PCM. It will ask to try again. Select 'No'.

4. There will be 4 to 5 key on/off prompts. Follow the prompts until asked to enter the VIN. When asked to enter the VIN, make sure all 17 characters are correctly entered and press the tick mark.

5. IDS will then give a prompt stating the entered VIN was not found in any session and ask to retry. Answer 'No'.

6. You will then be given a list of vehicles to choose from. Select 'All Other'.

7. Next prompt will have you enter the PCM part number, calibration number or tear tag. Enter only the factory tear tag found on the As-Built page of OASIS.

8. When the session is starting and the vehicle specification screen appears, select 'Yes' the vehicle is correct (as long as it is. If it is not, the wrong tear tag may have been entered).

9. When the session starts, navigate to the toolbox tab > Module Programming > Programmable Module Installation (PMI) > PCM.

10. Verify the first prompt of the PMI for VIN verification is answered correctly with all 17 characters of the VIN from the vehicle. It is recommended to avoid using the Repair Order information in case the VIN was not transcribed correctly.

11. When the IDS instructs to install new module, plug the PCM back in (replacement PCM).

12. If asked to enter the tire and axle ratio, be sure the information selected matches OASIS.

Deleting Previous IDS Sessions From The Computer

If it is suspected a new IDS session cannot be started for a proper PMI to be performed to follow one of the alternatively listed procedures above, it may be necessary to locate a computer with IDS that has never touched the vehicle. If that is not possible, then delete the IDS sessions from the computer following the instructions below. Instructions are written for Windows 10. Instructions for other operating systems may vary.

1. Open the Windows Start menu and navigate to the File Explorer.

2. Navigate to C:\ProgramData\FordMotorCompany\IDS\Sessions, look for the folder labeled ProgramData.

3. Open the ProgramData folder and highlight all previous session and delete them. This will delete all previous sessions. If other IDS sessions are required for review later or to be resumed, you can to go to the recycle bin on the computer and restore the deleted files. Restoring them will automatically put them back in the correct location.

NOTE: If the Program Data folder is not available, in Folder Options, you need to enable 'Hidden Files and Folders'. Instructions vary between Windows 10 and Windows 8. Certain firewalls and administrator privilege requirements may prevent you from doing this without a user with proper credentials being logged into the computer.