concerns.

BCM PID Chart

Acronym	Name	Description
KEYS_PROGMD	Number of ignition key codes supported	Displays the number of keys currently programmed into the BCM.
MIN_KEYS_RQD	Minimum number of keys required	Minimum number of programmed keys required. This PID always reads 2.

PCM PID Chart

Acronym	Name	Description
PATSENABL	Vehicle enable status	Indicates if PATS allows the vehicle to be driven. Must read enabled for the vehicle to be driven.

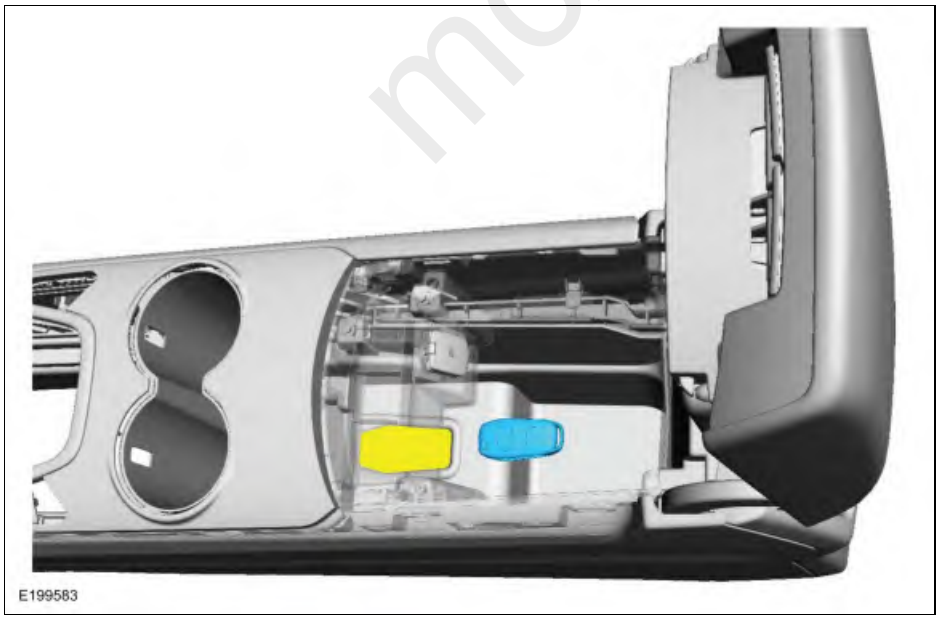
Backup Starting

NOTE: *There are certain areas within the vehicle where the passive key may not be detected and the message center displays No Key Detected. If the passive key is in the far outside edges of the interior (such as in a door map pocket or above a sun visor), it may not be detected. Move the passive key to a different location and try to turn the ignition on.*

When the vehicle experiences a PATS condition, the No Key Detected message displays in the message center when the START/STOP button is pressed.

In the event of one of these failures, place a programmed passive key in the backup location to allow the vehicle to start. When the START/STOP button is pressed, the PATS center antenna activates the passive key and the identification code is sent to the BCM. The passive key must be oriented correctly in the backup starting location.

Passive Key Backup Starting Location



No Key Detected Message

NOTE: *Some brands/types of mobile phone or laptop computer chargers may cause interference that could lead to a PATS concern if the passive key is within close proximity of the charger. If a concern is observed, move the passive key away from the charger and attempt to turn the ignition on.*

There are 2 scenarios in which the No Key Detected message displays in the message center.

The first is when the ignition is off, the START/STOP button is pressed and a programmed passive key is not detected inside the vehicle. If a component failure (such as a depleted passive key batteries) is causing the No Key Detected message to display, the backup starting method can be used.

The second scenario is when the vehicle ignition is on, the driver exits the vehicle with the valid programmed passive key and closes the door.

The BCM activates the PATS center antenna, the keyless entry rear antenna and both exterior front door handle keyless entry antennas to search the inside of the vehicle for a passive key any time a door is opened and then closed with the ignition on and the first time each drive cycle the vehicle speed exceeds 15 km/h (9 mph). The No Key Detected message displays in the message center and the horn chirps twice when the ignition is on and a passive key is no longer detected inside the vehicle.

This strategy deters the passive key from being separated from an already running vehicle. If a passive key is no longer in the vehicle, the ignition remains on and the vehicle continues to operate. When the START/STOP button is pressed to turn the ignition off, the ignition can be restarted without a passive key present inside the vehicle for approximately 20 seconds. After 20 seconds have elapsed, a passive key must be present to transition the ignition out of off.

Component Description

Passive Key

The passive key incorporates both the PATS and the RKE transmitter functions in a single device. The passive key must be located inside the vehicle for the ignition to transition out of off and on the outside for keyless entry features. During key programming procedures, the PATS and the RKE transmitter of the passive key are both programmed into the BCM. Passive keys are programmed into the BCM using the passive key backup starting location. The vehicle accepts programming of up to 4 passive keys.

The passive key receives the low frequency signals from the PATS center antenna and the keyless entry rear antenna. When the passive key is activated by one of the low frequency signals, it sends out a high frequency signal that is received by the RTM. The passive key also contains a removable key blade that unlocks the driver door in the event of an electrical failure (such as a drained battery).

PATS Center Antenna

NOTE: *Some brands/types of mobile phone or laptop computer chargers may cause interference that could lead to a PATS concern if the passive key is within a few inches of the charger and the No Key Detected message displays in the message center. If a concern is observed, move the passive key away from the charger and attempt to transition the ignition on.*

The PATS center antenna is wired to the BCM. When activated by the BCM, it transmits a low frequency signal that activates a passive key. This antenna serves a dual purpose in that it can detect a passive key in the backup starting location. The backup starting location is used to program passive keys and to detect a programmed passive key in the event the battery in the programmed passive key has failed.

When activated, the PATS center antenna sends out a low frequency signal with an approximate range of 1 m (3 ft). A valid programmed passive key must be within range for the PATS to recognize the key and allow the ignition to transition out of off.

If a passive key is placed in the far outside edges of the interior, such as above a sun visor or in a door map pocket, the vehicle can experience a PATS concern. If the passive key is located in one of these areas and there is a PATS concern, move the passive key out of the area and attempt to transition the ignition on. If the key is outside the range of the PATS center antenna and the keyless entry rear antenna when the START/STOP button is pressed, the No Key Detected message displays in the message center.

Keyless Entry Rear Antenna

NOTE: *Some brands/types of mobile phone or laptop computer chargers may cause interference that could lead to a PATS concern if the passive key is within a few inches of the charger and the No Key Detected message displays in the message center. If a concern is observed, move the passive key away from the charger and attempt to transition the ignition on.*

The keyless entry rear antenna is wired to the BCM. When activated by the BCM, it transmits a low frequency signal that activates a passive key.

When activated, the keyless entry rear antenna sends out a low frequency signal with an approximate range of 1 m (3 ft). A programmed passive key must be within range for the PATS to recognize the key and allow the ignition to transition out of off.

If a passive key is placed in the far outside edges of the interior, such as the far corners of the passenger compartment area, the vehicle can experience a PATS concern. If the passive key is located in one of these areas and there is a PATS concern, move the passive key out of the area and attempt to transition the ignition on. If the key is outside the range of the keyless entry rear antenna and the PATS center antenna when the START/STOP button is pressed, the No Key Detected message displays in the message center.

Exterior Front Door Handles

Each of the exterior front door handles contain a keyless entry antenna. The antennas are wired to the BCM. When activated by the BCM, the antenna transmits a low frequency signal with an approximate range of 1 m (3 ft) to activate a passive key.

If a passive key is placed in the far outside edges of the interior, such as the far corners of the luggage compartment area, the vehicle can experience a PATS concern. If the passive key is located in one of these areas and there is a PATS concern, move the passive key out of the area and attempt to transition the ignition on. If the key is determined by the BCM to be outside the vehicle or is outside the range of the antennas within the exterior front door handles, the PATS center antenna and the keyless entry rear antenna when the START/STOP button is pressed, the No Key Detected message displays in the message center.

BCM

If the BCM is replaced, program at least 2 keys and carry out the parameter reset procedure.

PMI is required when the BCM is replaced.

PCM

When the PCM is replaced, carry out the parameter reset procedure. There is no need to program keys if the PCM is replaced.

PMI is required when the PCM is replaced.

Diagnosis and Testing

Passive Anti-Theft System (PATS)

DTC Charts

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.
REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).

BCM DTC Chart

DTC	Description	Action
B10C7:01	Interior Trunk Antenna: General Electrical Failure	GO to Pinpoint Test A
B10C8:01	Interior Centre Antenna: General Electrical Failure	GO to Pinpoint Test A
B10D7:05	PATS Key: System Programming Failure	DIAGNOSE all other Diagnostic Trouble codes (DTCs) first. If no other Diagnostic Trouble codes (DTCs) are present, PROGRAM the suspect passive key again. If key programming fails, REPLACE the suspect passive key. PROGRAM the new passive key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS) - Vehicles With: Keyless Vehicle System, General Procedures).
B10D7:55	PATS Key: Not Configured	The Configurable Engine Immobilizer (CEI) was not completed during the PMI procedure. CARRY OUT the Configurable Engine Immobilizer (CEI) as part of the PMI procedure.
B10D8:00	PATS Key Less Than Minimum Programmed: No Sub Type Information	Less than 2 keys are programmed (minimum of 2 keys must be programmed). PROGRAM the customer's second key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS) - Vehicles With: Keyless Vehicle System, General Procedures).
B10DA:51	PATS Target Identifier: Not Programmed	There is no PCM ID stored in the BCM memory. CARRY OUT a parameter reset. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS) - Vehicles With: Keyless Vehicle System, General Procedures).
B11C6:01	Passenger Door External Antenna: General Electrical Failure	GO to Pinpoint Test A
B11CA:01	Driver Door External Antenna: General Electrical Failure	GO to Pinpoint Test A
All other Diagnostic Trouble Codes (DTCs)	-	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.
REFER to: Diagnostic Methods (100-00 General Information, Description and Operation).

PCM DTC Chart

DTC	Description	Action