

A4 CHECK FOR PCM (POWERTRAIN CONTROL MODULE) AND BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, perform the PCM and the BCM self-tests.

Are any PCM or BCM Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the DTC Chart in this section.
No	DIAGNOSE the starting system. REFER to the Diagnosis and Testing in the appropriate 303-06 Section.

[PINPOINT TEST B : B10D7:05](#)

Normal Operation and Fault Conditions

When the BCM enters a key programming state, it activates the PATS transceiver to read the key in the ignition lock cylinder. If a valid PATS key is used and no concerns with PATS are present, the key is programmed into the BCM memory.

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D7:05	PATS Key: System Programming Failures	Sets when a PATS key is not successfully programmed into the BCM.

Possible Sources

- PATS key not programmed

Visual Inspection and Pre-checks

- Inspect the PATS key for damage.
- Verify the correct key is used.

B1 CHECK THE BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE SELF-TEST

- Review the Diagnostic Trouble Codes (DTCs) from the BCM self-test.

Is DTC B10D5:13, B10D7:87, B10D9:87, C113A:11 or C113A:15 present?

Yes	For DTC B10D5:13, INSTALL a new PATS transceiver. REFER to: Passive Anti-Theft System (PATS) Transceiver (419-01B Passive Anti-Theft System (PATS), Removal and Installation). For DTC B10D7:87, GO to Pinpoint Test C For DTC B10D9:87, GO to Pinpoint Test E For DTC C113A:11 or C113A:15, GO to Pinpoint Test F
No	GO to B2

B2 CHECK THE PATS (PASSIVE ANTI-THEFT SYSTEM) KEY

- Verify the correct PATS keys are used with the vehicle. Refer to the parts catalog.

Are the correct PATS keys used?

Yes	PROGRAM the key again. If key programming fails, DISCARD the suspect key and PROGRAM a new key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS), General Procedures).
No	OBTAIN the correct key for the vehicle. PROGRAM the new key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS), General Procedures).

PINPOINT TEST C : B10D7:87

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D7:87	PATS Key: Missing Message	Sets when the BCM does not receive a key read from the PATS transceiver when communication is present.

Possible Sources

- Radio frequency interference
- PATS key
- PATS transceiver

NOTE: This pinpoint test requires a second programmed PATS key. If only one key is available, obtain a second programmed PATS key.

C1 CHECK FOR RADIO FREQUENCY INTERFERENCE

- Check for metallic objects or other electronic devices on the same key ring, such as a second PATS key for another vehicle or other transponder type of device.

Are any items identified on the key ring that may cause radio frequency interference?

Yes	REMOVE the programmed key from the key ring. TEST the system for normal operation. If the concern is still present, GO to C2 If the concern is no longer present, INFORM the customer of the cause of the concern.
No	GO to C2

C2 CHECK IF THE CONCERN IS PRESENT FOR BOTH PROGRAMMED KEYS

- Place the first PATS key in the ignition lock cylinder.
- Ignition ON.
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.
- Record the results from the BCM self-test.
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Insert the customer's second key.
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.
- Record the results from the BCM self-test.

Is DTC B10D7:87 present for both keys?

Yes	INSTALL a new PATS transceiver. REFER to: Passive Anti-Theft System (PATS) Transceiver (419-01B Passive Anti-Theft System (PATS), Removal and Installation).
No	DISCARD the key in question and PROGRAM a new key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS), General Procedures).

PINPOINT TEST D : B10D7:8F

Normal Operation and Fault Conditions

When the ignition transitions to RUN or START, the BCM activates the PATS transceiver to read the key in the ignition lock cylinder. If the BCM does not receive a PATS key code or if the code is invalid, the PATS prevents the vehicle from starting.

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D7:8F	PATS Key: Erratic	Sets when the BCM reads a partial or corrupt PATS key read.

Possible Sources

- Radio frequency interference
- PATS key
- PATS transceiver

Visual Inspection and Pre-checks

- Inspect the PATS key for damage.
- Verify the correct key is used.

NOTE: This pinpoint test requires a second programmed PATS key. If only one key is available, obtain a second programmed PATS key.

D1 CHECK THE PATS (PASSIVE ANTI-THEFT SYSTEM) KEY

- Verify the correct PATS keys are used with the vehicle. Refer to the parts catalog.

Are the correct PATS keys used?

Yes	GO to D2
No	OBTAIN the correct key(s) for the vehicle. PROGRAM the new key(s). REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS), General Procedures).

D2 CHECK FOR RADIO FREQUENCY INTERFERENCE

- Check for metallic objects or other electronic devices on the same key ring, such as a second PATS key for another vehicle or other transponder type of device.

Are any items identified on the key ring that may cause radio frequency interference?

Yes	REMOVE the programmed key from the key ring. TEST the system for normal operation. If the concern is still present, GO to D3 If the concern is no longer present, INFORM the customer of the cause of the concern.
No	GO to D3

D3 ISOLATE THE PATS (PASSIVE ANTI-THEFT SYSTEM) KEYS

- Place the first PATS key in the ignition lock cylinder.
- Ignition ON.
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test. Record the results.
- Record the results from the BCM self-test.
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Insert the customer's second key.
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test. Record the results.
- Record the results from the BCM self-test.

Is DTC B10D7:8F retrieved for both keys?

Yes	INSTALL a new PATS transceiver. REFER to: Passive Anti-Theft System (PATS) Transceiver (419-01B Passive Anti-Theft System (PATS), Removal and Installation).
No	DISCARD the key in question and PROGRAM a new key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS), General Procedures).

PINPOINT TEST E : B10D9:87

Refer to Wiring Diagrams Cell [112](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D9:87	PATS Transponder: Missing Message	Sets when the BCM loses communication with the PATS transceiver.

Possible Sources

- Wiring, terminals or connectors
- PATS transceiver
- BCM

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

E1 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) C113A:11 OR C113A:15

- Review the results from the BCM self-test.

Is DTC C113A:11 or C113A:15 present?

Yes	GO to Pinpoint Test F
No	GO to E2

E2 CHECK FOR VOLTAGE TO THE PATS (PASSIVE ANTI-THEFT SYSTEM) TRANSCEIVER

- Ignition OFF.
- Disconnect: PATS Transceiver [C252](#).
- Ignition ON.
- Measure:

PASSIVE ANTI-THEFT SYSTEM (PATS) TRANSCEIVER	
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Positive Lead	Measurement / Action	Negative Lead
C252-1		Ground

Is the voltage greater than 11 volts?

Yes	GO to E4
No	GO to E3

E3 CHECK THE PATS (PASSIVE ANTI-THEFT SYSTEM) TRANSCEIVER VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: BCM [C2280B](#).
- Measure:

PASSIVE ANTI-THEFT SYSTEM (PATS) TRANSCIEVER	BODY CONTROL MODULE (BCM)
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Positive Lead	Measurement / Action	Negative Lead
C252-1	Ω	C2280B-47

Is the resistance less than 3 ohms?

Yes	GO to E8
No	REPAIR the circuit.

E4 CHECK THE PATS (PASSIVE ANTI-THEFT SYSTEM) TRANSCIEVER GROUND CIRCUIT FOR AN OPEN

- Measure:

PASSIVE ANTI-THEFT SYSTEM (PATS) TRANSCIEVER
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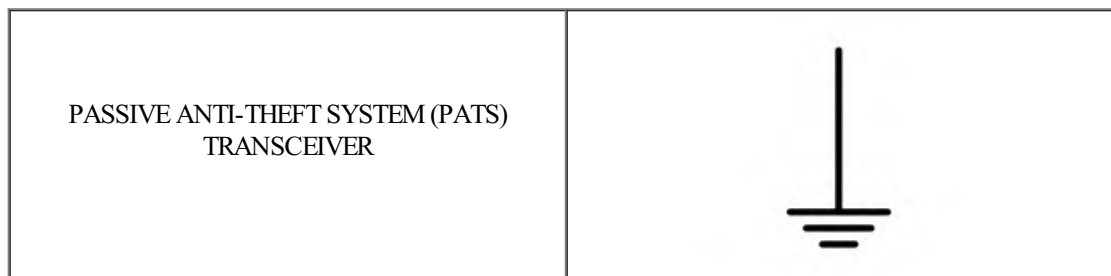
Positive Lead	Measurement / Action	Negative Lead
C252-1		C252-4

Is the voltage greater than 11 volts?

Yes	GO to E5
No	REPAIR the circuit.

E5 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: BCM [C2280B](#).
- Ignition ON.
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C252-3		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to E6

E6 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

PASSIVE ANTI-THEFT SYSTEM (PATS) TRANSCIVER	
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Positive Lead	Measurement / Action	Negative Lead
C252-3	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to E7
No	REPAIR the circuit.

E7 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN

- Measure:

PASSIVE ANTI-THEFT SYSTEM (PATS) TRANSCIVER	BODY CONTROL MODULE (BCM)
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Positive Lead	Measurement / Action	Negative Lead
C252-3	Ω	C2280B-52

Is the resistance less than 3 ohms?

Yes	INSTALL a new PATS transceiver. REFER to: Passive Anti-Theft System (PATS) Transceiver (419-01B Passive Anti-Theft System (PATS), Removal and Installation). CLEAR the Diagnostic Trouble Codes (DTCs) and repeat the BCM self-test. If DTC B10D9:87 is retrieved again, GO to E8
No	REPAIR the circuit.

E8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all of the BCM connectors.
- Repair:
 - corrosion (install new connectors or terminals, clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect all the BCM connectors and make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM, or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, Install new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. Address the root cause of any connector or pin issues.

Refer to Wiring Diagrams Cell [112](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM C113A:11	Wakeup Control: Circuit Short To Ground	Set by the BCM when a short to ground is detected on the wakeup control output circuit.
BCM C113A:15	Wakeup Control: Circuit Short To Battery Or Open	Set by the BCM when a short to voltage is detected on the wakeup control output circuit.

Possible Sources

- Wiring terminals or connectors
- PATS transceiver
- BCM
- PCM

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

F1 REVIEW THE BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE SELF-TEST

- Review the Diagnostic Trouble Codes (DTCs) from the BCM self-test.

Is DTC C113A:11 present?

Yes	GO to F2
No	GO to F5

F2 ISOLATE THE PCM (POWERTRAIN CONTROL MODULE) AS THE CAUSE FOR A SHORT TO GROUND ON THE WAKEUP CONTROL OUTPUT CIRCUIT

- Ignition OFF.
- Disconnect: PCM B-connector .
- Ignition ON.
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.

Is DTC C113A:11 still present?

Yes	GO to F3
No	GO to F10

F3 ISOLATE THE PATS (PASSIVE ANTI-THEFT SYSTEM) TRANSCEIVER AS THE CAUSE FOR A SHORT TO GROUND ON THE WAKEUP CONTROL OUTPUT CIRCUIT

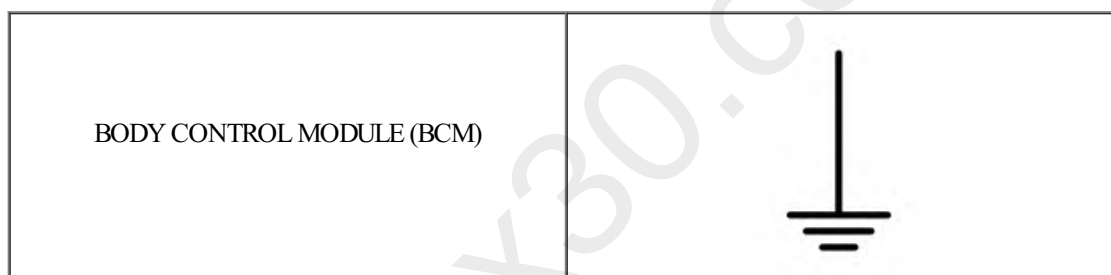
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Disconnect: PATS Transceiver [C252](#).
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.

Is DTC C113A:11 still present?

Yes	GO to F4
No	INSTALL a new PATS transceiver. REFER to: Passive Anti-Theft System (PATS) Transceiver (419-01B Passive Anti-Theft System (PATS), Removal and Installation).

F4 CHECK THE WAKEUP CONTROL OUTPUT CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: BCM [C2280B](#).
- Disconnect: BCM [C2280E](#).
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C2280B-47	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to F11
No	REPAIR the circuit in question.

F5 CHECK THE WAKEUP CONTROL CIRCUIT FOR AN OPEN OR SHORT TO VOLTAGE

- Attempt to start the vehicle.

Does the vehicle start?

Yes	GO to F7
No	GO to F6

F6 CHECK THE WAKEUP CONTROL CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: PATS Transceiver [C252](#).
- Disconnect: BCM [C2280B](#)
- Measure:

PASSIVE ANTI-THEFT SYSTEM (PATS) TRANSCIVER	BODY CONTROL MODULE (BCM)
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Positive Lead	Measurement / Action	Negative Lead
C252-1		C2280B-47

Is the resistance less than 3 ohms?

Yes	GO to F11
No	REPAIR the circuit.

F7 ISOLATE THE PCM (POWERTRAIN CONTROL MODULE) AS THE CAUSE FOR A SHORT TO VOLTAGE ON THE WAKEUP CONTROL OUTPUT CIRCUIT

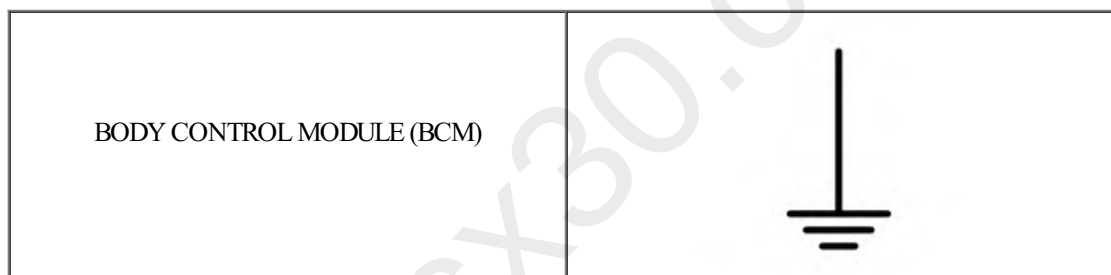
- Ignition ON.
- Using a diagnostic scan tool, clear the BCM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Disconnect: PCM B-Connector
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.

Is DTC C113A:15 still present?

Yes	GO to F8
No	GO to F10

F8 CHECK THE PCM (POWERTRAIN CONTROL MODULE) WAKEUP CONTROL CIRCUIT AS THE CAUSE FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: BCM [C2280E](#).
- Ignition ON.
- Measure:



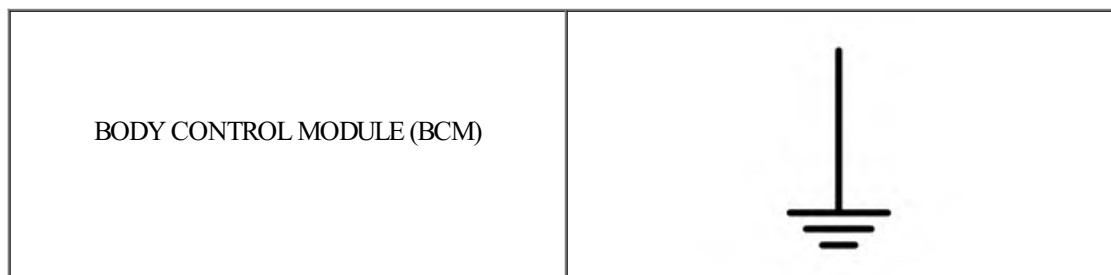
Positive Lead	Measurement / Action	Negative Lead
C2280B-47		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to F9

F9 CHECK THE PATS (PASSIVE ANTI-THEFT SYSTEM) TRANSCEIVER WAKEUP CONTROL CIRCUIT AS THE CAUSE FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: BCM [C2280B](#).
- Disconnect: PATS Transceiver [C252](#).
- Ignition ON.
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C2280B-47		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to F11

F10 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all of the PCM connectors.
- Repair:
 - corrosion (install new connectors or terminals, clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect all the PCM connectors and make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM, or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL new PCM, refer to the appropriate 303-14 section.
No	The system is operating correctly at this time. The concern may have been caused by module connections. Address the root cause of any connector or pin issues.

F11 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all of the BCM connectors.
- Repair:
 - corrosion (install new connectors or terminals, clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect all the BCM connectors and make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM, or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, Install a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. Address the root cause of any connector or pin issues.

PINPOINT TEST G : DTC (DIAGNOSTIC TROUBLE CODE) B10D5:13

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D5:13	PATS Antenna: Circuit Open	Sets when the when there is an internal antenna circuit open.

Possible Sources

- PATS transceiver

G1 CHECK BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the BCM self-test.

Are there any other DTC's Present ?

Yes	DIAGNOSE all other DTC's first. Refer to DTC chart in this section.
No	INSTALL a new PATS transceiver. REFER to: Passive Anti-Theft System (PATS) Transceiver (419-01B Passive Anti-Theft System (PATS), Removal and Installation).

PINPOINT TEST H : DTC (DIAGNOSTIC TROUBLE CODE) B10D7:51

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D7:51	PATS Key: Not Programmed	Sets when the BCM detects the suspect key of PATS not programmed.

Possible Sources

- Faulty or non-programmed key is present

H1 CHECK BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the BCM self-test.

Are there any other DTC's Present ?

Yes	DIAGNOSE all other DTC's first. Refer to DTC chart in this section. .
No	PROGRAM the suspect key. REFER to: Anti-Theft Key Programming - Scan Tool (419-01B Passive Anti-Theft System (PATS), General Procedures).

[PINPOINT TEST I : DTC \(DIAGNOSTIC TROUBLE CODE\) B10D7:55](#)

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D7:55	PATS Key: Not Configured	Sets when the BCM detects a fault with the CEI is not configured as part of the PMI.

Possible Sources

- CEI lock configuration not completed during PMI procedure.

I1 CHECK BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the BCM self-test.

Are there any other DTC's Present?

Yes	DIAGNOSE all other DTC's first. Refer to DTC chart in this section. Chart. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	The CEI was not completed during the PMI procedure. CARRY OUT the CEI lock configuration as part of the PMI procedure.

[PINPOINT TEST J : DTC \(DIAGNOSTIC TROUBLE CODE\) B10D8:00](#)

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10D8:00	PATS Key Less Than Minimum Programmed: No Sub Type Information	Sets when the BCM detects a fault when less than two keys are not programmed.

Possible Sources

- 2 keys not programmed

J1 CHECK BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the BCM self-test.

Are there any other DTC's Present ?

Yes	DIAGNOSE all other DTC's first. Refer to BCM DTC Chart. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	CYCLE the customer's second key in the ignition cylinder to program. (When less than 2 keys are programmed, the BCM automatically programs the first 2 keys that are cycled in the ignition key cylinder).

PINPOINT TEST K : DTC (DIAGNOSTIC TROUBLE CODE) P161A:00

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P161A:00	Incorrect Response from Immobilizer Control Module: No Sub Type Information	Sets when the PCM detects a fault when there is no BCM ID is not stored in the PCM.
PCM P161B:00	Incorrect Response from Secondary Immobilizer Module: No Sub Type Information	Sets when the ABS ID received by the PCM does not match the ID stored in the PCM memory

Possible Sources

- There is no BCM ID stored in the PCM memory
- The ABS ID received by the PCM does not match the ID stored in the PCM memory.

K1 CHECK PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the PCM self-test.

Are there any other DTC's Present ?

Yes	DIAGNOSE all other DTC's first. Refer to DTC chart in this section.
No	CARRY OUT a parameter reset. REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

PINPOINT TEST L : DTC (DIAGNOSTIC TROUBLE CODE) B10DA:51

Normal Operation and Fault Conditions

REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B10DA:51	PATS Target Identifier: Not Programmed	Sets when the BCM detects a fault when there is no PCM ID is not stored in the BCM.

Possible Sources

- No PCM ID stored in the BCM memory

L1 CHECK BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the BCM self-test.

Are there any other DTC's Present?

Yes	DIAGNOSE all other DTC's first. Refer to DTC chart in this section.
No	CARRY OUT a parameter reset. REFER to: Passive Anti-Theft System (PATS) - System Operation and Component Description (419-01B Passive Anti-Theft System (PATS), Description and Operation).

General Procedures

Anti-Theft Key Programming - Scan Tool

Programming

NOTE: A passive key with a depleted battery(ies) only starts the vehicle when in the backup starting location. The RKE functionality remains inoperative until the key battery(ies) is replaced.

NOTE: The diagnostic scan tool **must** have an active Internet connection. A hardwired connection is strongly recommended.

NOTE: When programming keys, the RKE transmitter and the PATS portion of the key are programmed at the same time.

NOTE: Common anti-theft security access choices are:

- Count keys
- Erase Keys
- Program Keys
- Module Initialization

1. Using a diagnostic scan tool, establish a session with the vehicle.

Refer to: Diagnostic Methods (100-00 General Information, Description and Operation).

2. **NOTE:** If the perimeter alarm activates when a diagnostic scan tool is connected and no valid programmed keys are available, carry out the following steps:

- If equipped with a keyless entry keypad, enter the keyless entry keypad code to allow a diagnostic scan tool session to be established. Proceed to Step 3 further below.
 - If not equipped, allow the alarm to activate for 10 minutes, which will then be followed by a 1 minute access window where a diagnostic scan tool session can be established. Proceed to the following steps:
- To avoid nuisance from the horn, remove the horn fuse.
- Using a diagnostic scan tool, establish a session with the vehicle.
- Select TOOLBOX>PCM, or SOBDMC (if equipped) or BCM (some vehicles) under HS1 module list> PATS Programming, or ABS (if equipped) under HS2 module list> PATS Programming, but do **not** select the check mark box to proceed further.
- If equipped with a hood latch switch, and the hood is open for battery charging purposes, place the hood latch in the closed position.
- Latch the striker in the driver's door to prevent a door ajar condition from being reported to the BCM and leave the driver's door open to allow access to the DLC and ignition switch or push to start button. Ensure that all other doors, liftgate, luggage compartment lid, and or tailgate are closed.
- If the exterior lights are not flashing to indicate an alarm event, disconnect and reconnect the battery.
- Select PATS Programming and then select the appropriate function to erase keys. Select the corresponding check marks until the screen is displayed which indicates that 2 keys will need to be programmed to start the vehicle. Select the check mark on this screen to continue. An error may be reported on the next screen. Ignore this error. Exit from this diagnostic scan tool function and select PATS Programming a second time. Proceed until either a screen is displayed which advises to turn the ignition on or the main PATS Programming menu is displayed. Do not select the check mark on this screen or proceed any further.
- The process of requesting to erase keys with the diagnostic scan tool initiates a 10 minute timer in the BCM which must conclude before the 1 minute DLC access window will occur.
- Reinsert the horn fuse after the exterior and interior lights stop flashing. This will occur within 4-5 minutes of when a command to erase keys was sent from the diagnostic scan tool. After another 5-6 minutes (9-11 minutes from the initial point of diagnostic scan tool DLC access), the horn will chirp 1 time to indicate that the 1 minute data link access time period has begun. **Immediately proceed to step 5.** If the single horn chirp is not heard, perform the procedure again starting at step 1.
- **NOTE:** Depending on the diagnostic scan tool power settings, it may be required to provide an occasional mouse/keypad input to prevent power saver mode from being entered and the diagnostic scan tool session being interrupted during the 10 minute period before the 1 minute access window. Also, ensure that a technician service publication website session is active and has not timed out on the laptop or PC being used for this procedure.

3. Using a diagnostic scan tool, select TOOLBOX>PCM or SOBDMC (if equipped) or BCM (some vehicles) under HS1 module list> PATS Programming or ABS (if equipped) under HS2 module list> PATS Programming.

4. Select the appropriate procedure and follow the on-screen instructions.

5. When the "Gaining Security Access" screen appears, ensure the diagnostic scan tool is connected to the Internet and select "Yes" to