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## 2002 FORD F-150 Super Crew OEM Service and Repair Workshop Manual

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**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) - Vehicles With: Keyed Ignition, Description and Operation).

**DTC Fault Trigger Conditions**

| DTC (diagnostic trouble code) | Description | Fault Trigger Condition |
|---|---|---|
| PCM (powertrain control module) P161A:00 | Incorrect Response from Immobilizer Control Module: No Sub Type Information | Sets when the PCM (powertrain control module) detects a fault when there is no BCM (body control module) ID is not stored in the PCM (powertrain control module) . |
| SOBDMC (secondary on-board diagnostic control module C) P161A:00 | Incorrect Response from Immobilizer Control Module: No Sub Type Information | Sets when the BCM (body control module) ID received by the SOBDMC (secondary on-board diagnostic control module C) does not match the ID stored in the SOBDMC (secondary on-board diagnostic control module C) memory. |
| PCM (powertrain control module) P161B:00 | Incorrect Response from Secondary Immobilizer Module: No Sub Type Information | Sets when the ABS (anti-lock brake system) ID received by the PCM (powertrain control module) does not match the ID stored in the PCM (powertrain control module) memory |

**Possible Sources**

- The BCM (body control module) ID received by the PCM (powertrain control module) and the SOBDMC (secondary on-board diagnostic control module C) (if equipped) does not match the ID stored in PCM (powertrain control module) and/or SOBDMC (secondary on-board diagnostic control module C) (if equipped) memory.
- The ABS (anti-lock brake system) ID received by the PCM (powertrain control module) does not match the ID stored in the PCM (powertrain control module) memory.

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

- Using a diagnostic scan tool, carry out the PCM (powertrain control module) and SOBDMC (secondary on-board diagnostic control module C) (if equipped) self-test.

**Are there any other Diagnostic Trouble Codes (DTCs) Present ?**

| | |
|---|---|
| **No** | CARRY OUT the module initialization.<br>REFER to: Anti-Theft Key Programming - Scan Tool<br>(419-01B Passive Anti-Theft System (PATS) - Vehicles With: Keyed Ignition, General Procedures). |

- 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 below.
     - If not equipped, allow the alarm to activate for 10 minutes, which is 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 or anti-theft alarm horn fuse.
   - Using a diagnostic scan tool, establish a session with the vehicle.
   - Select TOOLBOX> PCM (powertrain control module) , or SOBDMC (secondary on-board diagnostic control module C) (if equipped) or BCM (body control module) (some vehicles) under HS-CAN1 (high-speed controller area network 1)  module list> PATS (passive anti-theft system) Programming, or ABS (anti-lock brake system) (if equipped) under HS-CAN2 (high-speed controller area network 2)  HS2 or FD-CAN (Flexible Data Rate Controller Area Network) (on some models) module list> PATS (passive anti-theft system)  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 door to prevent a door ajar condition from being reported to the BCM (body control module)  and leave the driver door open to allow access to the DLC (data link

network 2)  or FD-CAN (Flexible Data Rate Controller Area Network) (on some models) module list> PATS (passive anti-theft system)  Programming.

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

5. When the Gaining Security Access screen appears, make sure the diagnostic scan tool is connected to the Internet and select Yes to continue. If directed to this step from the above alarm activation steps for vehicles without a keyless entry keypad, select Erase Keys.

6. **NOTE**

   If programming a passive key (vehicles with push button start), refer to the Owner's Literature for the passive key backup starting location. The passive key must be placed in this location to successfully program.

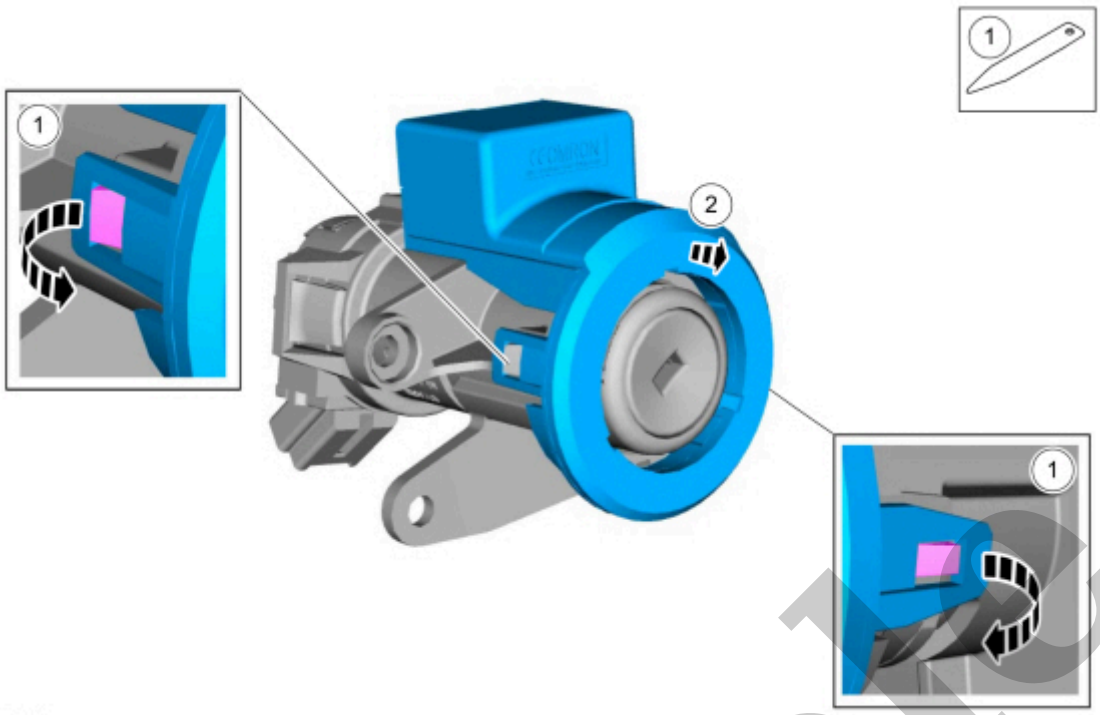
   Return to the diagnostic scan tool window and follow the on-screen instructions. The door locks and hazard flashers cycle to indicate when a key is successfully programmed. After programming the first key and selecting OK, place the second key in the backup starting location and select Program Key to program the second key. Start the vehicle; if it will not start, select PATS (passive anti-theft system) Functions and perform a parameter reset or module initialization for the BCM (body control module) , the PCM (powertrain control module) , SOBDMC (secondary on-board diagnostic control module C) (if equipped), or the ABS (anti-lock brake system)  module (if equipped) as necessary. If the vehicle will still not start, perform the procedure again starting at Step 1.

approximately 3 seconds).

4. Turn the second key to OFF and remove the key from the ignition lock cylinder.
5. Within 10 seconds of turning the second key to OFF, insert the new, unprogrammed PATS (passive anti-theft system)  key into the ignition lock cylinder and turn the ignition lock cylinder to RUN (maintain the key in RUN for approximately 6 seconds).
6. **NOTE**

   See the Owner's Literature for maximum number of keys that can be programmed to the vehicle.

   Repeat steps 1-5 to program additional keys.

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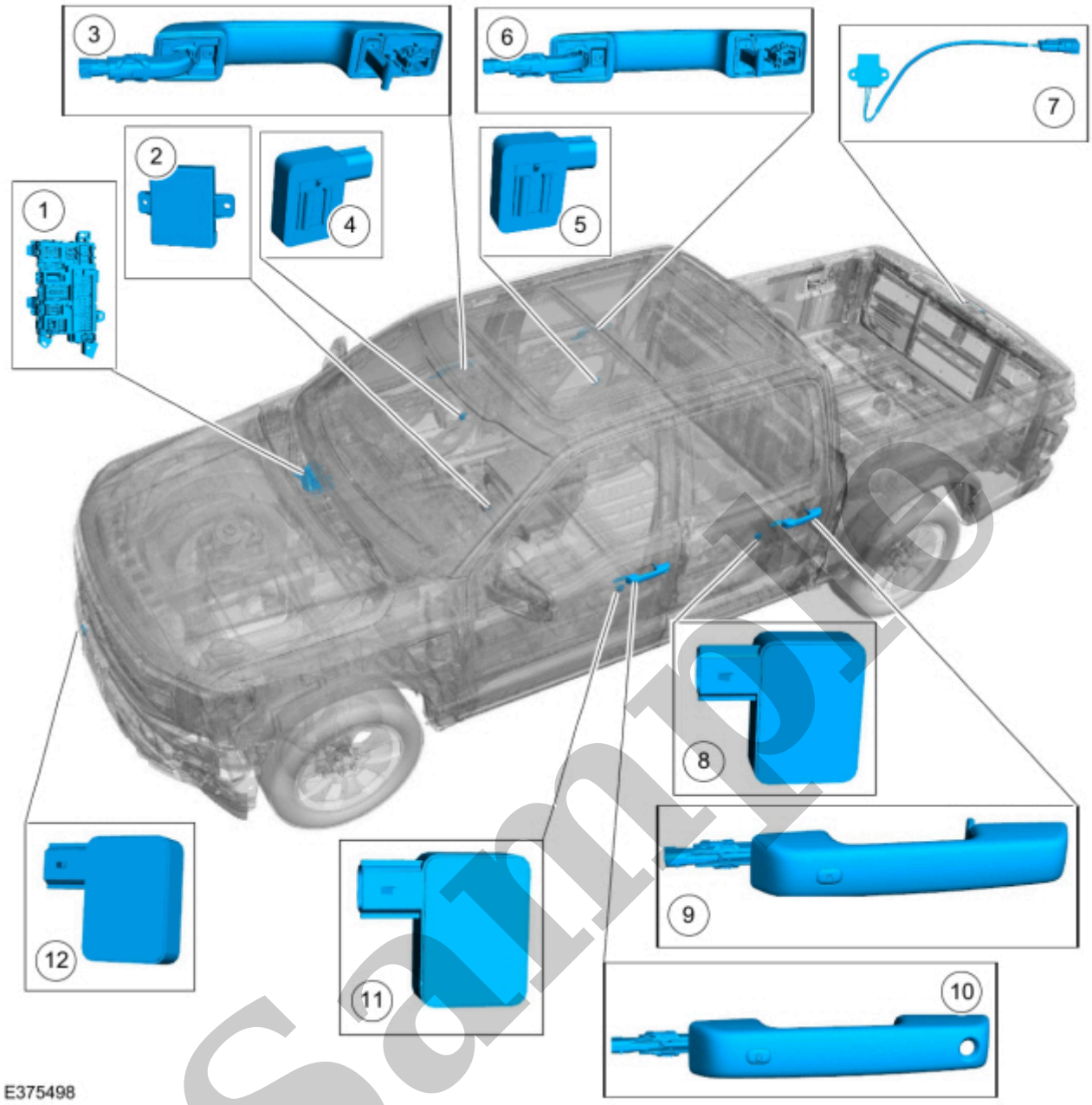
Click here to learn about symbols, color coding, and icons used in this manual.

**Installation**

1. To install, reverse the removal procedure.






| Item | Description |
|---|---|
| 1 | BCM (body control module) |
| 2 | RFA (remote function actuator) |
| 3 | Front Exterior Door Handle RH (right-hand) (Antenna #5) |
| 4 | Bluetooth Front Interior Antenna RH (right-hand) (Antenna #3) |
| 5 | Bluetooth Rear Interior Antenna RH (right-hand) ( Antenna #1) |

# Passive Anti-Theft System (PATS) - Overview

| | |
|---|---|
| ***419-01D Passive Anti-Theft System (PATS) - Vehicles With: Phone as a Key*** | ***2022 F-150*** |
| ***Description and Operation*** | ***Procedure revision date: 03/11/2022*** |

**Passive Anti-Theft System (PATS) - Overview**

**Overview**

**NOTE**

This section only describes and diagnosis the Phone as a Key system. In order for the Phone as a Key system to operate, the PATS (passive anti-theft system)  system must be functioning correctly.

**NOTE**

Remote start feature is only available with the Phone as a Key feature.

For more information about the PATS (passive anti-theft system)  system

Refer to: Passive Anti-Theft System (PATS) - System Operation and Component Description

(419-01C Passive Anti-Theft System (PATS) - Vehicles With: Push Button Start, Description and Operation).

The power lock/unlock feature, locks or unlocks the doors upon a customer request from a door lock control switch, the keyless entry keypad, the passive entry system, or a RKE (remote keyless entry)  transmitter, and the Phone as a Key feature duplicates RKE (remote keyless entry)  PATS (passive anti-theft system) functionality with traditional RKE (remote keyless entry) . Phone as a Key utilizes Bluetooth Low Energy protocol, an authorized mobile device, and RFA (remote function actuator)  module and antennas to achieve this function.

# Passive Anti-Theft System (PATS) - System Operation and Component Description

| | |
|---|---|
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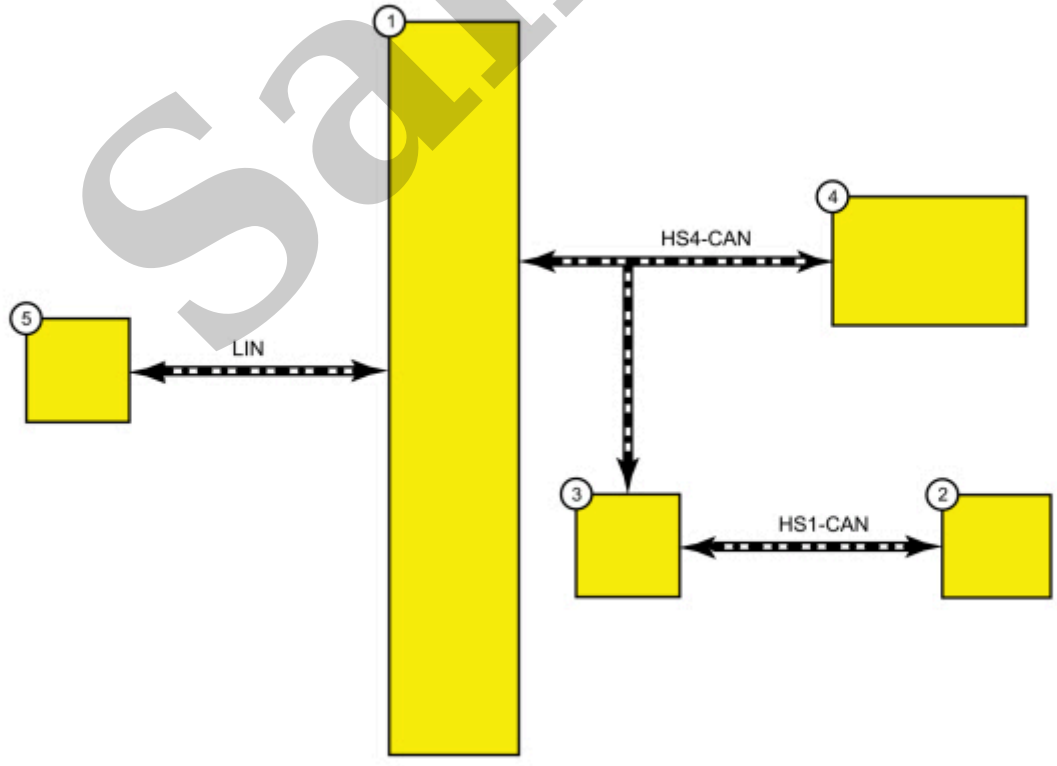
## Passive Anti-Theft System (PATS) - System Operation and Component Description

System Operation

**System Diagram**

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