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2005 FORD F-150 Super Crew OEM Service and Repair Workshop Manual

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Bluetooth Rear Exterior Antenna

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

Bluetooth Rear Exterior Antenna

Removal

1. Remove the tailgate moulding

   Refer to: Tailgate Moulding(501-08 Exterior Trim and Ornamentation, Removal and Installation).

2. Remove the bluetooth rear exterior antenna.
   1. Disconnect the bluetooth rear exterior antenna electrical connector.
   2. Release the wiring harness routing clip.
   3. Remove the screws and the bluetooth rear exterior antenna.

Bluetooth Rear Interior Antenna

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

Bluetooth Rear Interior Antenna

Removal

NOTE

Left hand (LH) shown, right hand (RH) similar.

1. Remove the rear door trim panel.

   Refer to: Rear Door Trim Panel - SuperCrew(501-05 Interior Trim and Ornamentation, Removal and Installation).

2. **NOTE**

   Seats removed for clarity.

   Remove the bluetooth rear interior antenna.

   1. Disconnect the bluetooth rear interior antenna electrical connector.
   2. Release the bluetooth rear interior antenna clip.

Remote Function Actuator (RFA) Module

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

Remote Function Actuator (RFA) Module

Removal

1. **NOTE**

   This step is only necessary when installing a new component.

   NOTE

   If installing a new module, it is necessary to upload the module configuration information to the diagnostic scan tool prior to removing the module. This information must be downloaded into the new module after installation.

   Using a diagnostic scan tool, begin the PMI (programmable module installation) process for the RFA (remote function actuator) module following the on-screen instructions.

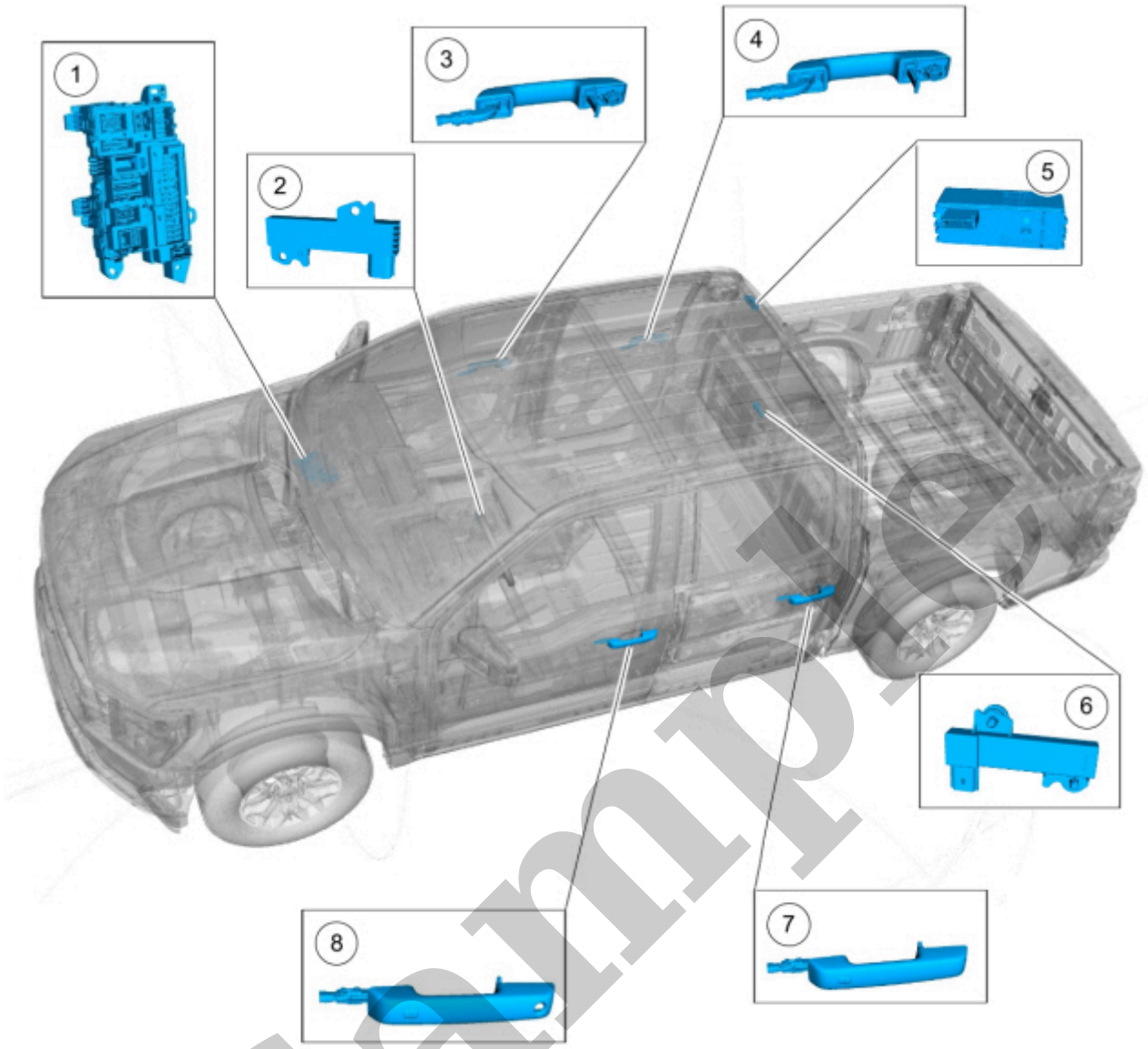
2. Remove the Gear Shift Module (GSM).

   Refer to: Gear Shift Module (GSM)(307-05A Automatic Transmission External Controls - 1-Speed Automatic Transmission, Removal and Installation).

3. Remove the RFA (remote function actuator) module.

   1. Remove the RFA (remote function actuator) module screws.

Using a diagnostic scan tool, complete the PMI (programmable module installation) process for the RFA (remote function actuator) module following the on-screen instructions.



Item	Description
1	BCM (body control module)
2	PATS (passive anti-theft system) center antenna
3	Exterior front door handle RH (right-hand)
4	RTM (radio transceiver module)
5	PATS (passive anti-theft system) rear entry antenna

4	RTM (radio transceiver module)
5	PATS (passive anti-theft system) rear entry antenna
6	Exterior front door handle LH (left-hand)

For more information and to identify the backup starting location, refer to “Failure to Start” and “backup slot” in the Owner's Literature.

No Key Detected Message

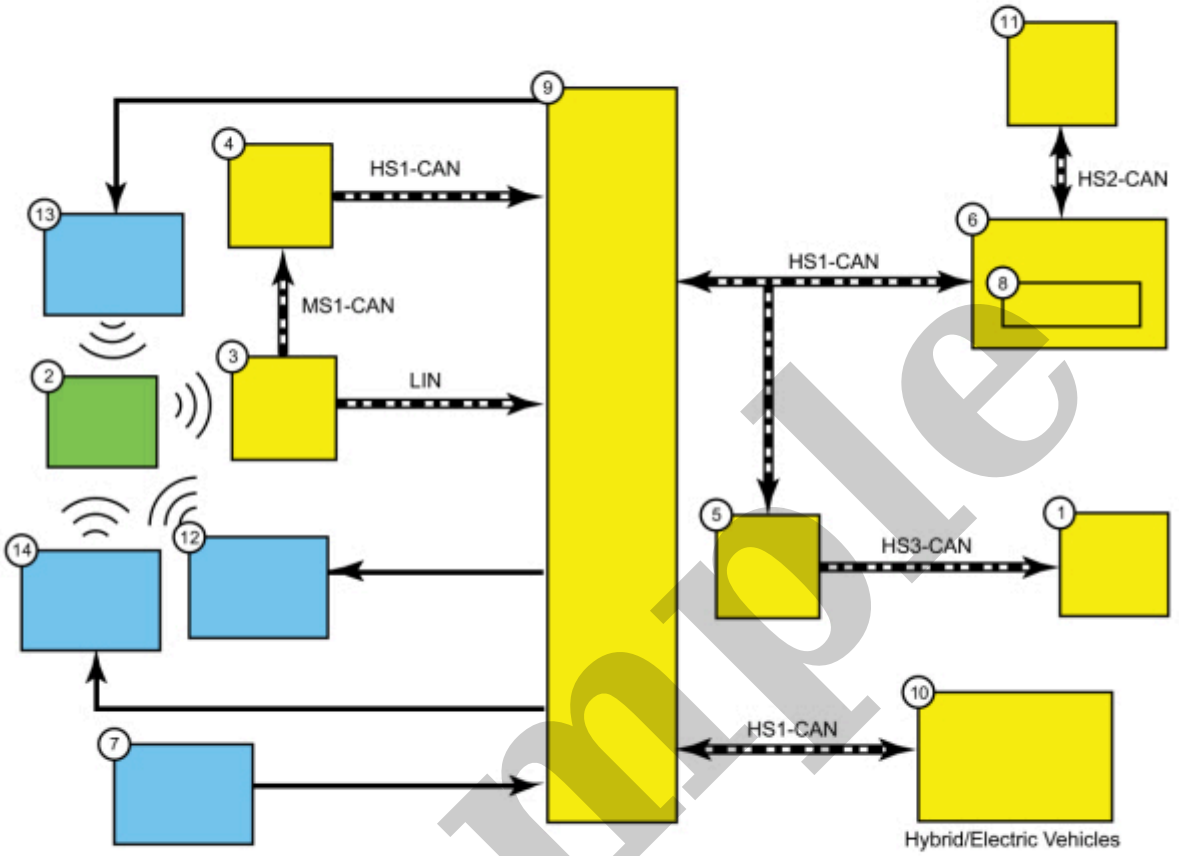
NOTE

Some brands/types of mobile phone or laptop computer chargers may cause interference that could lead to a PATS (passive anti-theft system) 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.

The No Key Detected message displays in the IPC (instrument panel cluster) message center when:

- 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 battery or BCM (body control module) failure) is causing the No Key Detected message to display, the backup starting method can be used.
- When the ignition is ON, the driver exits the vehicle with the programmed passive key and closes the door.
- The BCM (body control module) activates the PATS (passive anti-theft system) center antenna and keyless entry rear antenna to search the inside of the vehicle for a passive key any time a door or the liftgate is opened and then closed with the vehicle running and the first times 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 a vehicle with the ignition ON. If a passive key is no longer detected in the vehicle, the vehicle continues to run. If the START/STOP button is pressed to turn the vehicle off, the engine 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 to ON.



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Item	Description
1	IPC (instrument panel cluster)
2	Passive Key
3	RTM (radio transceiver module)
4	GWM (gateway module A)
5	GWM (gateway module A)

Module Network Input Messages - IPC (instrument panel cluster)

Broadcast Message	Originating Module	Message Purpose
Vehicle mode	BCM (body control module)	Used by the IPC (instrument panel cluster) to display “No Key Detected” when the START/STOP button is pressed and no programmed key is detected within the vehicle.

Module Network Input Messages - PCM (powertrain control module)

Broadcast Message	Originating Module	Message Purpose
PATS (passive anti-theft system) control command	BCM (body control module)	The response from the BCM (body control module) supplying the PCM (powertrain control module) target 1 challenge ID. If the BCM (body control module) ID response is incorrect, then PATS (passive anti-theft system) prevents the vehicle from starting.

Module Network Input Messages - SOBDMC (secondary on-board diagnostic control module C) (if equipped)

Broadcast Message	Originating Module	Message Purpose
PATS (passive anti-theft system) control command	BCM (body control module)	The response from the BCM (body control module) supplying the SOBDMC (secondary on-board diagnostic control module C) (if equipped) target 2 challenge ID. If the BCM (body control module) ID response is incorrect, then PATS (passive anti-theft system) prevents the vehicle from starting.

ABS (anti-lock brake system) Module Network Input Messages

Broadcast Message	Originating Module	Message Purpose
Immobilizer target 1 function	PCM (powertrain control module)	The immobilizer subtarget function sends a response message to the target 1 challenge message from the PCM (powertrain