

# Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

## 2020 Ford SSV Plug-in Hybrid Service and Repair Manual

[Go to manual page](#)

No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.
<b>N8 CHECK FOR CORRECT PDM (PASSENGER DOOR MODULE) OPERATION</b>	
<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Disconnect and inspect the PDM (passenger door module) connector(s).</li> <li>• Repair: <ul style="list-style-type: none"> <li>• corrosion (install new connector or terminals – clean module pins)</li> <li>• damaged or bent pins – install new terminals/pins</li> <li>• pushed-out pins – install new pins as necessary</li> </ul> </li> <li>• Reconnect the PDM (passenger door module) connector(s). Make sure they seat and latch correctly.</li> <li>• Operate the system and determine if the concern is still present.</li> </ul>	
<b>Is the concern still present?</b>	
Yes	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 PDM (passenger door module) .</p> <p>REFER to: <a href="#">Passenger Door Module (PDM)</a> (419-10 Multifunction Electronic Modules, Removal and Installation).</p>
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 O : U023A

### Normal Operation and Fault Conditions

If the PCM (powertrain control module) does not receive messages from other modules within a certain time frame the PCM (powertrain control module) sets a DTC (diagnostic trouble code) for lost communication.

### DTC Fault Trigger Conditions

### O3 PERFORM IPMA (IMAGE PROCESSING MODULE A) SELF-TEST

- Using a diagnostic scan tool, perform a IPMA (image processing module A) module self-test.

**Are any Diagnostic Trouble Codes (DTCs) recorded?**

**Yes**

REFER to: [Lane Keeping System](#)(419-07 Lane Keeping System, Diagnosis and Testing).

**No**

GO to [O4](#)

### O4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM (gateway module A) Diagnostic Trouble Codes (DTCs).

**Are any Diagnostic Trouble Codes (DTCs) recorded?**

**Yes**

REFER to: [Controller Area Network \(CAN\) Module Communications Network](#)(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

**No**

GO to [O5](#)

### O5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PCM (powertrain control module) self-test.

**Are any non-network Diagnostic Trouble Codes (DTCs) present?**

**Yes**

REFER to PCM DTC Chart in this section.

**No**

GO to [O6](#)

### O6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

**NOTE**

<b>No</b>	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.
<b>08 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION</b>	
<ul style="list-style-type: none"> <li>• Ignition OFF.</li> <li>• Disconnect and inspect the IPMA (image processing module A) connector(s).</li> <li>• Repair: <ul style="list-style-type: none"> <li>• corrosion (install new connector or terminals – clean module pins)</li> <li>• damaged or bent pins – install new terminals/pins</li> <li>• pushed-out pins – install new pins as necessary</li> </ul> </li> <li>• Reconnect the IPMA (image processing module A) connector(s). Make sure they seat and latch correctly.</li> <li>• Operate the system and determine if the concern is still present.</li> </ul>	
<b>Is the concern still present?</b>	
<b>Yes</b>	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 IPMA (image processing module A) .</p> <p>REFER to: <a href="#">Interior Rear View Mirror</a> (501-09 Rear View Mirrors, Removal and Installation).</p>
<b>No</b>	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 P : U0253:

### Normal Operation and Fault Conditions

If the PCM (powertrain control module) does not receive messages from other modules within a certain time frame the PCM (powertrain control module) sets a DTC (diagnostic trouble code) for lost communication.

### DTC Fault Trigger Conditions

### P3 PERFORM APIM (SYNC MODULE) MODULE SELF-TEST

- Using a diagnostic scan tool, perform a APIM (SYNC module) self-test.

#### Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: <a href="#">Information and Entertainment System</a> (415-00 Information and Entertainment System - General Information, Diagnosis and Testing).
-----	--

No	GO to <a href="#">P4</a>
----	--------------------------

### P4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the BCM (body control module) Diagnostic Trouble Codes (DTCs).

#### Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: <a href="#">Controller Area Network (CAN) Module Communications Network</a> (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).
-----	---

No	GO to <a href="#">P5</a>
----	--------------------------

### P5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PCM (powertrain control module) self-test.

#### Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to PCM DTC Chart in this section.
-----	---

No	GO to <a href="#">P6</a>
----	--------------------------

### P6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

#### NOTE

<b>No</b>	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.
-----------	--

#### **P8 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION**

- Ignition OFF.
- Disconnect and inspect the APIM (SYNC module) connector(s).
- Repair:
  - corrosion (install new connector or terminals – clean module pins)
  - damaged or bent pins – install new terminals/pins
  - pushed-out pins – install new pins as necessary
- Reconnect the APIM (SYNC module) connector(s). Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

#### **Is the concern still present?**

<b>Yes</b>	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 APIM (SYNC module) .</p> <p>REFER to: <a href="#">SYNC Module [APIM] - Vehicles With: 8 Inch Center Display Screen/12 Inch Center Display Screen</a> (415-00 Information and Entertainment System - General Information, Removal and Installation).</p>
<b>No</b>	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 Q : U0288**

##### **Normal Operation and Fault Conditions**

If the PCM (powertrain control module) does not receive messages from other modules within a certain time frame the PCM (powertrain control module) sets a DTC (diagnostic trouble code) for lost communication.

##### **DTC Fault Trigger Conditions**

No	REFER to: <a href="#">Controller Area Network (CAN) Module Communications Network</a> (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).
----	---

  

### Q3 PERFORM DCACA (DIRECT CURRENT/ALTERNATING CURRENT CONVERTER MODULE A) SELF-TEST

- Using a diagnostic scan tool, perform a DCACA (Direct Current/Alternating Current Converter Module A) self-test.

**Are any Diagnostic Trouble Codes (DTCs) recorded?**

Yes	REFER to: <a href="#">Direct Current/Direct Current (DC/DC) Converter Control Module - Electric</a> (414-05 Voltage Converter/Inverter, Diagnosis and Testing). REFER to: <a href="#">Direct Current/Direct Current (DC/DC) Converter Control Module - Electric</a> (414-05 Voltage Converter/Inverter, Diagnosis and Testing).
-----	--

  

No	GO to <a href="#">Q4</a>
----	--------------------------

  

### Q4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM (gateway module A) Diagnostic Trouble Codes (DTCs).

**Are any Diagnostic Trouble Codes (DTCs) recorded?**

Yes	REFER to: <a href="#">Controller Area Network (CAN) Module Communications Network</a> (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).
-----	---

  

No	GO to <a href="#">Q5</a>
----	--------------------------

  

### Q5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PCM (powertrain control module) self-test.

**Are any non-network Diagnostic Trouble Codes (DTCs) present?**

Yes	REFER to PCM DTC Chart in this section.
-----	---

- verify the module was not obtained from a like vehicle and installed into customer vehicle
  - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

**Is the observable symptom still present?**

<b>Yes</b>	GO to <a href="#">Q8</a>
------------	--------------------------

<b>No</b>	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.
-----------	--

**Q8 CHECK FOR CORRECT DC/AC CONVERTER CONTROL MODULE OPERATION**

- Ignition OFF.
- Disconnect and inspect the DCACA (Direct Current/Alternating Current Converter Module A) module connector(s).
- Repair:
  - corrosion (install new connector or terminals – clean module pins)
  - damaged or bent pins – install new terminals/pins
  - pushed-out pins – install new pins as necessary
- Reconnect the DCACA (Direct Current/Alternating Current Converter Module A) connector(s). Make sure it seats and latches correctly.
- Operate the system and determine if the concern is still present.

**Is the concern still present?**

<b>Yes</b>	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 DCACA (Direct Current/Alternating Current Converter Module A) .</p> <p>REFER to: <a href="#">Direct Current/Alternating Current (DC/AC) Inverter - Vehicles With: 110-120V 400W Pickup Bed Power Outlet</a> (414-05 Voltage Converter/Inverter, Removal and Installation).</p>
------------	---



- Ignition ON.
- Verify there is an observable symptom present.

**Is an observable symptom present?**

<b>Yes</b>	GO to <a href="#">R2</a>
------------	--------------------------

<b>No</b>	The system is operating normally at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.
-----------	--

**R2 CHECK THE COMMUNICATION NETWORK**

- Using a diagnostic scan tool, perform a network test.

**Did the SOBDMC (secondary on-board diagnostic control module C) pass the network test?**

<b>Yes</b>	GO to <a href="#">R3</a>
------------	--------------------------

<b>No</b>	REFER to: <a href="#">Controller Area Network (CAN) Module Communications Network</a> (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).
-----------	---

**R3 PERFORM SOBDMC (SECONDARY ON-BOARD DIAGNOSTIC CONTROL MODULE C) MODULE SELF-TEST**

- Using a diagnostic scan tool, perform a SOBDMC (secondary on-board diagnostic control module C) self-test.

**Are any Diagnostic Trouble Codes (DTCs) recorded?**

<b>Yes</b>	REFER to: <a href="#">Electric Powertrain Control</a> (303-14F Electric Powertrain Control - 3.5L V6 PowerBoost (CN), Diagnosis and Testing).
------------	---

<b>No</b>	GO to <a href="#">R4</a>
-----------	--------------------------

**R4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)**

## NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration may be incorrectly set during the PMI (programmable module installation) , or the PMI (programmable module installation) may not have been carried out.

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM (powertrain control module) self-test.

### Is DTC (diagnostic trouble code) U0293 still present?

Yes

GO to [R7](#)

No

The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.

## R7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

## NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration can be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

- CHECK the vehicle service history for recent service actions related to the , SOBDMC (secondary on-board diagnostic control module C) , GWM (gateway module A) or PCM (powertrain control module) . If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

### Is the observable symptom still present?