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2019 Ford F-350 Super Duty Service and Repair Manual

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L1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to L2

No	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.

L2 CHECK THE COMMUNICATION NETWORK

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

Did the IPC (instrument panel cluster) module pass the network test?

Yes	GO to L3

No	REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

L3 PERFORM IPC (INSTRUMENT PANEL CLUSTER) CONTROL MODULE SELF-TEST

- Using a diagnostic scan tool, perform a IPC (instrument panel cluster) control module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Instrumentation, Message Center and Warning Chimes(413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).

No	GO to L4

L4 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).

L7 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 AWD (all-wheel drive) module, 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?

Yes	GO to L8

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

L8 CHECK FOR CORRECT AWD (ALL-WHEEL DRIVE) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the AWD (all-wheel drive) control module connector.
- 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 AWD (all-wheel drive) control module connector. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

M1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to M2

No	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.

M2 CHECK THE COMMUNICATION NETWORK

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

Did the HVAC (heating, ventilation and air conditioning) control module pass the network test?

Yes	GO to M3

No	REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

M3 PERFORM HVAC (HEATING, VENTILATION AND AIR CONDITIONING) CONTROL MODULE SELF-TEST

- Using a diagnostic scan tool, perform a HVAC (heating, ventilation and air conditioning) control module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

No	GO to M4

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.

M7 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 HVAC (heating, ventilation and air conditioning) control module, 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?

Yes	GO to M8

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

M8 CHECK FOR CORRECT HVAC (HEATING, VENTILATION AND AIR CONDITIONING) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the HVAC (heating, ventilation and air conditioning) control module connector(s).
- Repair:

- Communications network concern
- DDM (driver door module) control module
- GWM (gateway module A)
- PCM (powertrain control module)

N1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to N2

No	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.

N2 CHECK THE COMMUNICATION NETWORK

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

Did the DDM (driver door module) pass the network test?

Yes	GO to N3

No	REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

N3 PERFORM DDM (DRIVER DOOR MODULE) SELF-TEST

- 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) U0199 still present?

Yes	GO to N7

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.

N7 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 DDM (driver door module) , 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?

Yes	GO to N8

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) U0200:00	Lost Communication With 'Door Control Module B': No Sub Type Information	The PCM (powertrain control module) sets this DTC (diagnostic trouble code) if data messages from the PDM (passenger door module) through the GWM (gateway module A) are missing.

Possible Sources

- Communications network concern
- PDM (passenger door module) control module
- GWM (gateway module A)
- PCM (powertrain control module)

O1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to O2

No	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.

O2 CHECK THE COMMUNICATION NETWORK

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

Did the PDM (passenger door module) pass the network test?

Yes	GO to O3

No	REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

- 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) U0200 still present?

Yes	GO to O7

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.

O7 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 PDM (passenger door module) , 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?

Yes	GO to O8

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) U023A:00	Lost Communication With Image Processing Module A: No Sub Type Information	The PCM (powertrain control module) sets this DTC (diagnostic trouble code) if data messages from the IPMA (image processing module A) through the GWM (gateway module A) are missing.

Possible Sources

- Communications network concern
- IPMA (image processing module A)
- GWM (gateway module A)
- PCM (powertrain control module)

P1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to P2

No	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.

P2 CHECK THE COMMUNICATION NETWORK

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

Did the IPMA (image processing module A) pass the network test?

Yes	GO to P3

No	REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).