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1998 FORD Focus 5 Doors OEM Service and Repair Workshop Manual

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- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to BN2

No	CLEAR the DTC (diagnostic trouble code) . 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.

BN2 CHECK THE COMMUNICATION NETWORK

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

Do all modules pass the network test?

Yes	GO to BN3

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

BN3 CHECK THE IPC (INSTRUMENT PANEL CLUSTER) CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, perform the IPC (instrument panel cluster) self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the IPC (instrument panel cluster) self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the DTC (diagnostic trouble code) Chart in this section.

No	GO to BN4

No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have set due to high network traffic or an intermittent fault condition.

BN7 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 module(s) in question, GWM (gateway module A) or IPC (instrument panel cluster) . If recent service history is found:
  - verify correct replacement module was installed
    - vehicle parts build 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 BN8

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

BN8 CHECK FOR CORRECT OPERATION OF THE MODULE IN QUESTION

- Ignition OFF.
- Disconnect and inspect the module connector(s).
- Repair:
  - corrosion (install new connector or terminals – clean module pins)
  - damaged or bent pins – install new terminals/pins

IPC (instrument panel cluster) U0415:00	Invalid Data Received from Anti-Lock Brake System (ABS) Control Module 'A': No Sub Type Information	Invalid or missing selectable drive mode data received for 5 seconds or longer.
IPC (instrument panel cluster) U0415:82	Invalid Data Received from Anti-Lock Brake System (ABS) Control Module 'A': Alive/Sequence Counter Incorrect/Not Updated	Invalid or missing hill start assist, off road display, traction control on/off, or auto hold RTT (reconfigurable telltale) data received for 5 seconds or longer.
IPC (instrument panel cluster) U0420:82	Invalid Data Received from Power Steering Control Module 'A': Alive/Sequence Counter Incorrect/Not Updated	Invalid or missing power steering control data received for 5 seconds or longer.
IPC (instrument panel cluster) U0424:00	Invalid Data Received from HVAC Control Module 'A': No Sub Type Information	Invalid or missing outside air temperature data received for 5 seconds or longer. (The outside air temperature displays as dashes.)
IPC (instrument panel cluster) U0424:81	Invalid Data Received from HVAC Control Module 'A': Invalid Serial Data Received	Invalid or missing outside air temperature data received for 5 seconds or longer. (The outside air temperature displays as dashes.)
IPC (instrument panel cluster) U0424:82	Invalid Data Received from HVAC Control Module 'A': Alive/Sequence Counter Incorrect/Not Updated	Invalid or missing outside air temperature data received for 5 seconds or longer. (The outside air temperature displays as dashes.)
IPC (instrument panel cluster) U0428:82	Invalid Data Received From Steering Angle Sensor Module: Alive/Sequence Counter Incorrect/Not Updated	Invalid or missing adaptive steering data received for 5 seconds or longer.
IPC (instrument panel cluster) U0431:82	Invalid Data Received From Body Control Module 'A': Alive/Sequence Counter Incorrect/Not Updated	Invalid or missing load shed data received for 5 seconds or longer.
IPC (instrument panel cluster) U0452:81	Invalid Data Received From Restraints Control Module: Invalid Serial Data Received	Invalid or missing Belt-Minder data received for 5 seconds or longer.

Are any Diagnostic Trouble Codes (DTCs) present from the module sending the invalid data?

Yes	DIAGNOSE the module sending the invalid data. REFER to the appropriate section in the Workshop Manual.
No	DIAGNOSE the observable symptom present. REFER to the appropriate symptom chart in this section.

PINPOINT TEST BP : INVALID DATA RECEIVED - INVALID/INCOMPATIBLE CONFIGURATION

Normal Operation and Fault Conditions

REFER to: Controller Area Network (CAN) Module Communications Network - System Operation and Component Description(418-00A Controller Area Network (CAN) Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPC (instrument panel cluster) U0405:56	Invalid Data Received From Cruise Control Module: Invalid/Incompatible Configuration	Data mismatch between the module configuration and the messaged signals received.
IPC (instrument panel cluster) U0533:56	Invalid Data Received From Side Obstacle Detection Control Module 'A': Invalid/Incompatible Configuration	Data mismatch between the module configuration and the messaged signals received.
IPC (instrument panel cluster) U0534:56	Invalid Data Received From Side Obstacle Detection Control Module 'B': Invalid/Incompatible Configuration	Data mismatch between the module configuration and the messaged signals received.

Possible Sources

- IPC (instrument panel cluster)

BP1 CHECK VEHICLE HISTORY FOR RECENT SERVICE ACTIONS

- Check the vehicle history for any recent service actions related to the IPC (instrument panel cluster) .

BQ1 CHECK VEHICLE HISTORY FOR RECENT SERVICE ACTIONS

- Check the vehicle history for any recent service actions related to the IPC (instrument panel cluster) .

Have any service actions been performed?

Yes	REPEAT the PMI (programmable module installation) as directed by the diagnostic scan tool.
No	GO to BQ2

BQ2 RECONFIGURE THE MODULE

- Using a diagnostic scan tool, perform the PMI (programmable module installation) as directed by the diagnostic scan tool.
- Verify the IPC (instrument panel cluster) functions correctly.

Does the IPC (instrument panel cluster) function correctly?

Yes	The system is operating correctly at this time. The concern may have been caused by incomplete or incorrect PMI (programmable module installation) procedure.
No	The IPC (instrument panel cluster) fails to retain configuration data. INSTALL a new IPC (instrument panel cluster) . REFER to: Instrument Panel Cluster (IPC) - Electric, Vehicles With: 8 Inch Center Display Screen/12 Inch Center Display Screen (413-01 Instrumentation, Message Center and Warning Chimes, Removal and Installation).

PINPOINT TEST BR : U3000:04 OR U3000:46

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPC (instrument panel cluster) U3000:04	Control Module: System Internal Failures	Sets in the IPC (instrument panel cluster) when the IPC (instrument panel cluster) detects an EEPROM failure.

- Wiring, terminals or connectors
- High circuit resistance
- Charging system concern
- IPC (instrument panel cluster)

BS1 RECHECK THE IPC (INSTRUMENT PANEL CLUSTER) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the IPC (instrument panel cluster) self-test.

Is DTC (diagnostic trouble code) U3003:16 still present?

Yes	GO to BS2

No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to a previous low battery voltage condition.

BS2 CHECK FOR CHARGING SYSTEM DIAGNOSTIC TROUBLE CODES (DTCS) IN THE BCM (BODY CONTROL MODULE)

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

Are any charging system Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to the Master DTC (diagnostic trouble code) Chart.

No	GO to BS3

BS3 CHECK THE BATTERY CONDITION AND STATE OF CHARGE

- Check the battery condition and verify the battery is fully charged.
  REFER to: Battery - Electric(414-01 Battery, Mounting and Cables, Diagnosis and Testing).

Is the battery OK and fully charged?

Yes	GO to BS4

No	REPAIR the circuit for high circuit resistance.

BS6 CHECK THE IPC (INSTRUMENT PANEL CLUSTER) GROUND

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C220A-8		C220A-3

Is the voltage greater than 11 volts?

Yes	GO to BS7

No	REPAIR the circuit for high circuit resistance.

BS7 CHECK FOR CORRECT IPC (INSTRUMENT PANEL CLUSTER) OPERATION

- Ignition OFF.
- Disconnect and inspect the IPC (instrument panel cluster) 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 IPC (instrument panel cluster) connector. Make sure it seats and latches correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	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 IPC (instrument panel cluster) .

Yes	DIAGNOSE the overcharging condition. REFER to: Charging System (414-00 Charging System - General Information, Diagnosis and Testing).

No	GO to BT2

BT2 CHECK THE BATTERY VOLTAGE

- Turn off all interior/exterior lights and accessories.
- Start and run the engine at approximately 2,000 rpm for 3 minutes while monitoring the battery voltage.

Does the battery voltage rise to 15.5 volts or higher?

Yes	DIAGNOSE the overcharging condition. REFER to: Charging System (414-00 Charging System - General Information, Diagnosis and Testing).

No	GO to BT3

BT3 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U3003:17

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

Is U300A:64 recorded?

Yes	DIAGNOSE ignition concerns. REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing). DIAGNOSE starting system concerns. REFER to the appropriate 303-06 section.
No	The system is operating correctly at this time.