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2002 FORD Focus 5 Doors OEM Service and Repair Workshop Manual

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The power distribution display is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test BQ
The rear seatbelt monitor display is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test AX
The SelectShift/progressive range select display is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test AV
The speed sign recognition display is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test BR
The TPMS (tire pressure monitoring system) display is inoperative or incorrect	Refer to the Pinpoint Test	GO to Pinpoint Test BS
The trailer lighting display is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test BU
The trailer information display is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test BT
The Trip 1/Trip 2 display is incorrect or inoperative	IPC (instrument panel cluster)	REFER to: Instrument Panel Cluster (IPC) (413-01 Instrumentation, Message Center and Warning Chimes, Removal and Installation).
The Trip1/Trip 2, This Trip or Trip Summary display is inoperative (HEV (hybrid electric vehicle))	IPC (instrument panel cluster)	REFER to: Instrument Panel Cluster (IPC) (413-01 Instrumentation, Message Center and Warning Chimes, Removal and Installation).

Symptom Chart: Information And Message Center - Warnings

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#)

(100-00 General Information, Description and Operation).

Symptom Chart

Condition	Possible Sources	Actions
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The low fuel warning message is always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test AO
A one-pedal trail drive message is never or always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test AR
The passenger seat max recline warning message is never or always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test CP
The rear seatbelt monitor warning message is never or always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test AX
The reverse brake assist warning message is always displayed	Refer to the Pinpoint Test	REFER to: Blind Spot Information System (419-04A Side and Rear Vision, Diagnosis and Testing).
The seatbelt buckle message is never or always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test AZ
Service AdvanceTrac® warning message is always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test BA
A TPMS (tire pressure monitoring system) malfunction message is always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test BC
The tire training complete message is never on (sensor training incomplete)	Refer to the Pinpoint Test	GO to Pinpoint Test CA
A tire training message (train left front, right front, left rear or right rear tire) message is never displayed	Refer to the Pinpoint Test	GO to Pinpoint Test CA
The tires not trained message is always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test CA
A trail control message is never or always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test BD
A trail turn assist message is never or always displayed	Refer to the Pinpoint Test	GO to Pinpoint Test BE

The Belt-Minder® feature is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CG
The Belt-Minder® cannot be deactivated	MyKey® programmed key in use	The system is operating correctly. Use an administrator key to disable the Belt-Minder®.
The CTA (cross traffic alert) warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CE
The diesel exhaust over-temperature warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CH
The door ajar warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CI
The Electric Vehicle (EV) engine off reminder chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CJ
The forward collision warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CE
The headlamps on warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CK
Electric Vehicle (EV) engine off reminder chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CJ
The highway assist (hard takeover) warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CE
The ignition-engine on warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CL
The key-in-ignition warning chime is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test CM

- Communication concern
- Scheduled module software update failure (over-the-air update)
- GWM (gateway module A)
- IPC (instrument panel cluster)

Visual Inspection and Pre-checks

- Inspect the BCM (body control module) fuse 13 (7.5A).

A1 VERIFY AN OVER-THE-AIR IPC (INSTRUMENT PANEL CLUSTER) SOFTWARE UPDATE WAS PERFORMED

- Connect the diagnostic scan tool to the vehicle.
- Ignition ON.
- View the Connected Vehicle dashboard in PTS (Professional Technician System) .
- Review the update calendar and verify if any IPC (instrument panel cluster) software updates were performed.

Were any over-the-air software updates performed and failed?

Yes	Using the diagnostic scan tool, PEFORM the appropriate scheduled software update for the IPC (instrument panel cluster) . For additional information, REFER to: Module Configuration - System Operation and Component Description (418-01B Module Configuration - Vehicles With: Over-the-Air (OTA) Programming, Description and Operation).
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No	GO to A2
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A2 PERFORM THE NETWORK TEST FOR ALL MODULES

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

Do all modules pass the network test?

Yes	GO to A3
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No	REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).
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A3 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new IPC (instrument panel cluster) .

REFER to: [Instrument Panel Cluster \(IPC\)](#)

(413-01 Instrumentation, Message Center and Warning Chimes, Removal and Installation).

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 B : A VIRTUAL GAUGE IS INOPERATIVE

Normal Operation and Fault Conditions

See Virtual Gauges. REFER to: [Instrument Panel Cluster \(IPC\) - System Operation and Component Description](#)(413-01 Instrumentation, Message Center and Warning Chimes, Description and Operation).

Diesel Exhaust Fluid Level Gauge

- If the diesel exhaust fluid level indicator message is missing for less than 5 seconds, the IPC (instrument panel cluster) defaults the diesel exhaust fluid level gauge to the last indication state, based upon the last message received.
- If the diesel exhaust fluid level indicator message is missing for 5 seconds or longer, the IPC (instrument panel cluster) defaults the diesel exhaust fluid level gauge off.

Engine Oil Pressure Gauge

- If the oil pressure warning indicator request message is missing for less than 5 seconds, the IPC (instrument panel cluster) defaults the engine oil pressure gauge the last indication based upon that last message received.
- If the IPC (instrument panel cluster) does not receive the oil pressure warning indicator request message for 5 seconds or longer, the IPC (instrument panel cluster) defaults the engine oil pressure gauge to 0 PSI.

Engine Temperature Gauge

- If the engine coolant temperature data or engine overheat indication request messages are missing for less than 5 seconds, the IPC (instrument panel cluster) defaults the temperature gauge to the last indication state, based upon the last message received.
- If the engine coolant temperature data or engine overheat indication request messages are missing for 5 seconds or longer, the IPC (instrument panel cluster) defaults the temperature gauge to the full hot position.

Fuel Gauge

- If the IPC (instrument panel cluster) does not receive the fuel level input for less than 33 seconds, the IPC (instrument panel cluster) defaults the fuel gauge to the last indication state based on the last

Using the message center controls, make sure the IPC (instrument panel cluster) is set to display the gauge in question.

Is the IPC (instrument panel cluster) set to display the gauge?

Yes	GO to B2
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No	The virtual gauge is operating correctly. The IPC (instrument panel cluster) was not set to display the gauge in question.
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B2 PERFORM THE IPC (INSTRUMENT PANEL CLUSTER) SELF-TEST

- Using a diagnostic scan tool, perform the IPC (instrument panel cluster) self-test.
- Check for recorded Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to the IPC (instrument panel cluster) DTC (diagnostic trouble code) Chart.
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No	GO to B3
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B3 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PCM (powertrain control module) self-test.
- Check for recorded Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to the appropriate 303-14 section.
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No	For diesel, GO to B4 For gas or HEV (hybrid electric vehicle) , GO to B5
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B4 PERFORM THE TCM (TRANSMISSION CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the TCM (transmission control module) self-test.
- Check for recorded Diagnostic Trouble Codes (DTCs).

(413-01 Instrumentation, Message Center and Warning Chimes, Removal and Installation).

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 C : INCORRECT FUEL GAUGE INDICATION

Refer to Wiring Diagrams Cell 60 for schematic and connector information.

Normal Operation and Fault Conditions See Fuel Gauge. REFER to: [Instrument Panel Cluster \(IPC\) - System Operation and Component Description](#)

(413-01 Instrumentation, Message Center and Warning Chimes, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPC (instrument panel cluster) P0460:11	Fuel Level Sensor 'A' Circuit: Circuit Short To Ground	A continuous and on-demand DTC (diagnostic trouble code) that sets in the IPC (instrument panel cluster) if the fuel level input is pulled low out of range on the fuel level input circuit indicating a short to ground for 33 seconds or longer. The IPC (instrument panel cluster) defaults the fuel gauge to empty (E).
IPC (instrument panel cluster) P0460:13	Fuel Level Sensor 'A' Circuit: Circuit Open	A continuous and on-demand DTC (diagnostic trouble code) that sets in the IPC (instrument panel cluster) if the fuel level input is sent high out of range on the fuel level input circuit indicating an open or short to voltage for 33 seconds or longer. The IPC (instrument panel cluster) defaults the fuel gauge to empty (E).
PCM (powertrain control module) P0461:00	Fuel Level Sensor 'A' Circuit Range/Performance: No Sub Type Information	Sets when the PCM (powertrain control module) determines the fuel level input signal repeatedly moves in and out of range, exceeding the minimum or maximum allowable calibrated parameters for a specified fuel fill percentage in the fuel tank. Follow the pinpoint test using the Diagnostic Trouble Codes (DTCs) set in the IPC (instrument panel cluster) .

C1 CARRY OUT THE IPC (INSTRUMENT PANEL CLUSTER) SELF-TEST

- Ignition ON.
- Using a diagnostic scan tool, perform the IPC (instrument panel cluster) self-test.
- Check for recorded Diagnostic Trouble Codes (DTCs) from the IPC (instrument panel cluster) self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	For DTC (diagnostic trouble code) P0460:11, GO to C2 For DTC (diagnostic trouble code) P0460:13, GO to C5 For all other Diagnostic Trouble Codes (DTCs), REFER to the DTC (diagnostic trouble code) Chart: IPC (instrument panel cluster) in this section.
No	If equipped with the low-level (4-inch display) IPC (instrument panel cluster) , GO to C9 If equipped with the mid-level (8-inch display) or high-level (12-inch display) IPC (instrument panel cluster) , GO to C10

C2 CHECK THE FUEL LEVEL INPUT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect Fuel Pump And Sender Unit C4331 (Diesel).
- Disconnect Fuel Pump And Sender Unit C4330 (Gasoline/ HEV (hybrid electric vehicle)).
- Ignition ON.
- Wait one minute.

NOTE

DTC (diagnostic trouble code) P0460:11 can also be present when carrying out this step and should be disregarded at this time.

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


Is DTC (diagnostic trouble code) P0460:13 present?

Yes	GO to C11
No	GO to C3


C5 CHECK THE FUEL PUMP AND SENDER UNIT FOR AN OPEN

- Ignition OFF.
- Disconnect Fuel Pump And Sender Unit C4331 (Diesel).
- Disconnect Fuel Pump And Sender Unit C4330 (Gasoline/ HEV (hybrid electric vehicle)).
- Connect a fused jumper wire:

Diesel

Lead 1	Measurement / Action	Lead 2
C4331-2		C3127-1

Gas or HEV (hybrid electric vehicle)

Lead 1	Measurement / Action	Lead 2
C4330-2		C4330-1

- Ignition ON.
- Wait one minute.

NOTE

DTC (diagnostic trouble code) P0460:13 can also be present when carrying out this step and should be disregarded at this time.

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

Is DTC (diagnostic trouble code) P0460:11 present?

Yes	REMOVE the fused jumper wire. GO to C11
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No	REMOVE the fused jumper wire. GO to C6
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