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## 2010 FORD Kuga OEM Service and Repair Workshop Manual

Go to manual page

- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1822-31 | V | Ground |
| C1822-48 | V | Ground |

**Are the voltages greater than 11 volts?**

| | |
|---|---|
| **Yes** | GO to AO2 |

| | |
|---|---|
| **No** | VERIFY BCMC (body control module C) [ BJB (battery junction box) ] fuses 24 (10A) and 65 (15A) are OK. If OK, REPAIR the circuit in question. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. |

**AO2 CHECK THE TCM (TRANSMISSION CONTROL MODULE) GROUND CIRCUIT FOR AN OPEN**

- Ignition OFF.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C1822-50 | Ω | Ground |

**Is the resistance less than 3 ohms?**

| | |
|---|---|
| **Yes** | GO to AO3 |

| | |
|---|---|
| **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 TCM (transmission control module) .<br>REFER to: Transmission Control Module (TCM)<br>(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, 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 AP : THE TCU (TELEMATIC CONTROL UNIT MODULE) DOES NOT RESPOND TO THE DIAGNOSTIC SCAN TOOL**

**NOTE**

Failure to disconnect the battery when instructed will result in false resistance readings.

Refer to Wiring Diagrams Cell 13for schematic and connector information.
Refer to Wiring Diagrams Cell 131for schematic and connector information.
**Normal Operation and Fault Conditions** The TCU (telematic control unit module) communicates on the HS-CAN4 (high-speed controller area network 4) . 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).
**Possible Sources**

- Fuse
- Wiring, terminals and connector
- Remote DLC (data link connector)
- GWM (gateway module A)
- TCU (telematic control unit module)

**Visual Inspection and Pre-checks**

- Verify BCM (body control module) fuse 10 (5A) is OK.

**AP1 CHECK THE REMOTE DLC (DATA LINK CONNECTOR) PINS FOR DAMAGE**

- Ignition OFF.

**AP3 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) GROUND CIRCUIT FOR AN OPEN**

- Ignition OFF.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4803A-9 | Ω | Ground |

**Is the resistance less than 3 ohms?**

| | |
|---|---|
| **Yes** | GO to AP4 |

| | |
|---|---|
| **No** | REPAIR the circuit. |

**AP4 CHECK THE HS-CAN4 (HIGH-SPEED CONTROLLER AREA NETWORK 4) ( TCU (TELEMATIC CONTROL UNIT MODULE) ) TERMINATION RESISTANCE**

- Ignition OFF.
- Disconnect negative battery cable.
- Disconnect: GWM (gateway module A) C2431A.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C2431A-10 | Ω | C2431A-23 |

**Is the resistance between 108 and 132 ohms?**

| | |
|---|---|
| **Yes** | GO to AP5 |

| | |
|---|---|
| **No** | If the resistance is greater than 132 ohms, GO to AP8 If the resistance is less than 108 ohms, GO |

| | | |
|---|---|---|
| C2431A-23 |  | Ground |

**Are the voltages greater than 6 volts?**

| | |
|---|---|
| **Yes** | REPAIR the circuit in question. |

| | |
|---|---|
| **No** | GO to AP7 |

**AP7 CHECK THE GWM (GATEWAY MODULE A) HS-CAN4 (HIGH-SPEED CONTROLLER AREA NETWORK 4) TERMINATION RESISTOR (COMPONENT SIDE)**

| | | |
|---|---|---|
| C4803A-20 | Ω | C2431A-23 |

**Are the resistances less than 3 ohms?**

| | |
|---|---|
| **Yes** | CONNECT all disconnected connectors. GO to AP11 |

| | |
|---|---|
| **No** | REPAIR the circuit in question. |

**AP9 CHECK THE HS-CAN4 (HIGH-SPEED CONTROLLER AREA NETWORK 4) (+) AND HS-CAN4 (HIGH-SPEED CONTROLLER AREA NETWORK 4) (-) CIRCUITS FOR A SHORT TOGETHER WITH THE TCU (TELEMATIC CONTROL UNIT MODULE) DISCONNECTED**

- Disconnect: TCU (telematic control unit module) C4803A.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C2431A-10 | Ω | C2431A-23 |

**Did the resistance change to greater than 3 ohms with the TCU (telematic control unit module) disconnected?**

| | |
|---|---|
| **Yes** | CONNECT all disconnected connectors. GO to AP12 |

| | |
|---|---|
| **No** | REPAIR the circuits. |

**AP10 CHECK THE HS-CAN4 (HIGH-SPEED CONTROLLER AREA NETWORK 4) (+) AND HS-CAN4 (HIGH-SPEED CONTROLLER AREA NETWORK 4) (-) CIRCUITS FOR A SHORT TO GROUND WITH THE TCU (TELEMATIC CONTROL UNIT MODULE) DISCONNECTED**

- Disconnect: TCU (telematic control unit module) C4803A.
- Measure:

**AP12 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION**

- Ignition OFF.
- Disconnect and inspect the TCU (telematic control unit 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 TCU (telematic control unit module) 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 TCU (telematic control unit module) .<br>REFER to: Telematics Control Unit (TCU) Module<br>(415-00 Information and Entertainment System - General Information, 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. |

**AP13 CHECK FOR CORRECT GWM (GATEWAY MODULE A) OPERATION**

- Ignition OFF.
- Disconnect and inspect the GWM (gateway module A) 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 GWM (gateway module A) 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 |

| | | |
|---|---|---|
| C2498C-11 | V | Ground |
| C2498C-13 | V | Ground |

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C2498F-14 | V | Ground |

**Is the voltage greater than 11 volts?**

| | |
|---|---|
| **Yes** | GO to AQ2 |

| | |
|---|---|
| **No** | VERIFY BCMC (body control module C) [ BJB (battery junction box) ] fuses 42 (30A), 91 (20A) and 107 (30A) are OK. If OK, REPAIR the circuit in question. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short. |

**AQ2 CHECK THE TRM (TRAILER MODULE) GROUND CIRCUIT FOR AN OPEN**

- Ignition OFF.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C2498F-12 | Ω | Ground |

**Is the resistance less than 3 ohms?**

| | |
|---|---|
| **Yes** | GO to AQ3 |

- 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 TRM (trailer module) / TBM (trailer brake control module) .<br>REFER to: Trailer Module (TRM)<br>(417-01 Exterior Lighting, 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 AR : THE VDM (VEHICLE DYNAMICS CONTROL MODULE) DOES NOT RESPOND TO THE DIAGNOSTIC SCAN TOOL**

Refer to Wiring Diagrams Cell 14for schematic and connector information.
Refer to Wiring Diagrams Cell 41for schematic and connector information.
**Normal Operation and Fault Conditions** The VDM (vehicle dynamics control module) communicates on the FD-CAN (Flexible Data Rate Controller Area Network) . 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).
**Possible Sources**

- Wiring, terminals and connector
- BCMC (body control module C) [ BJB (battery junction box) ]
- VDM (vehicle dynamics control module)

**AR1 CHECK FOR BCMC (BODY CONTROL MODULE C) [ BJB (BATTERY JUNCTION BOX) ] NETWORK CONNECTION**

- Ignition ON.
- Using a diagnostic scan tool, carry out the network test.

**Does the BCMC (body control module C) [ BJB (battery junction box) ] pass the network test?**

| | |
|---|---|
| **Yes** | GO to AR2 |

**AR4 CHECK THE VDM (VEHICLE DYNAMICS CONTROL MODULE) GROUND CIRCUIT FOR AN OPEN**

- Ignition OFF.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4396-M4 | Ω | Ground |

**Is the resistance less than 3 ohms?**

| | |
|---|---|
| **Yes** | GO to AR5 |

| | |
|---|---|
| **No** | REPAIR the circuit. |

**AR5 CHECK THE FD-CAN (FLEXIBLE DATA RATE CONTROLLER AREA NETWORK) CIRCUITS BETWEEN THE VDM (VEHICLE DYNAMICS CONTROL MODULE) AND THE GWM (GATEWAY MODULE A) FOR AN OPEN**

- Disconnect: GWM (gateway module A) C2431A.
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4396-L3 | Ω | C2431A-4 |
| C4396-M3 | Ω | C2431A-17 |

**Are the resistances less than 3 ohms?**

| | |
|---|---|
| **Yes** | CONNECT all disconnected connectors. GO to AR6 |