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## 2006 FORD Focus ST 3 Doors OEM Service and Repair Workshop Manual

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| | |
|---|---|
| **Yes** | INSTALL a new height sensor.<br>REFER to: Front Suspension Height Sensor (204-05 Vehicle Dynamic Suspension, Removal and Installation).<br>If the concern is still present after height sensor replacement, GO to I6 |

| | |
|---|---|
| **No** | INSPECT the height sensor connector for corrosion, pushed out pins, bent pins and spread terminals. REPAIR as necessary.<br>If the connector is OK, REPAIR the affected circuit. |

**I6 VERIFY ALL WIRING CONNECTIONS**

- Ignition OFF.
- Disconnect all VDM (vehicle dynamics control module) connectors.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary

**Are the connectors free of corrosion, damaged pins, bent pins, pushed-out pins and spread terminals?**

| | |
|---|---|
| **Yes** | GO to I7 |

| | |
|---|---|
| **No** | REPAIR the connector or terminals.<br>Refer to Wiring Diagrams Cell 5for schematic and connector information. |

**I7 CHECK FOR CORRECT VDM (VEHICLE DYNAMICS CONTROL MODULE) OPERATION**

- Connect RH (right-hand) front height sensor C1151. Make sure they seat and latch correctly.
- Connect all VDM (vehicle dynamics control module) connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

**Is the concern still present?**

| | | |
|---|---|---|
| VDM (vehicle dynamics control module) C1A05:12 | Left Rear Height Sensor: Circuit Short To Battery | Sets in continuous memory when the VDM (vehicle dynamics control module) detects height sensor voltage greater than 96% of supply (norminally 5V) for greater than 250 milliseconds on the left rear height sensor signal circuit. |
| VDM (vehicle dynamics control module) U200E:11 | Control Module Output Power B: Circuit Short To Ground | Sets in continuous memory when the VDM (vehicle dynamics control module) detects if rear height sensor supply voltage is less than 4.7 volts for 250 milliseconds. |
| VDM (vehicle dynamics control module) U200E:12 | Control Module Output Power B: Circuit Short To Battery | Sets in continuous memory when the VDM (vehicle dynamics control module) detects if rear height sensor supply voltage is greater than 5.2 volts for 250 milliseconds. |

**Possible Sources**

- Wiring, terminals or connectors
- Height sensor
- VDM (vehicle dynamics control module)

**Visual Inspection and Pre-checks**

- Make sure the height sensor harness is routed correctly and is undamaged.
- Make sure the height sensor electrical connector is free from any corrosion or other contaminants.
- Make sure the height sensor brackets are not damaged.

**NOTICE**

Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may cause damage to the connector.

**J1 CHECK THE VDM (VEHICLE DYNAMICS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)**

- Ignition ON.
- **NOTE**

  If both types of faults are present (XXXXX:11 and XXXXX:12), diagnose the XXXXX:12 fault first.

  Using a diagnostic scan tool, carry out the VDM (vehicle dynamics control module) self-test.

**Is DTC (diagnostic trouble code) C1A05:12 or U200F:12 present?**

- Ignition OFF.
- Disconnect VDM (vehicle dynamics control module)  C4396 .
- Disconnect LH (left-hand)  rear height sensor C4092 .
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4092-1 | Ω | Ground |
| C4092-2 | Ω | Ground |
| C4092-3 | Ω | Ground |

**Are the resistance greater than 10,000 ohms?**

| | |
|---|---|
| **Yes** | GO to J4 |

| | |
|---|---|
| **No** | INSPECT the height sensor connector for corrosion, pushed out pins, bent pins and spread terminals. REPAIR as necessary.<br>If the connector is OK, REPAIR the affected circuit. |

**J4 CHECK THE LH (LEFT-HAND) REAR HEIGHT SENSOR CIRCUITS FOR AN OPEN**

- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4092-1 | Ω | C4396-K2 |

| | |
|---|---|
| | If the concern is still present after height sensor replacement, GO to J6 |

| | |
|---|---|
| **No** | INSPECT the height sensor connector for corrosion, pushed out pins, bent pins and spread terminals. REPAIR as necessary.<br>If the connector is OK, REPAIR the affected circuit. |

**J6 VERIFY ALL WIRING CONNECTIONS**

- Ignition OFF.
- Disconnect all VDM (vehicle dynamics control module) connectors.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary

**Are the connectors free of corrosion, damaged pins, bent pins, pushed-out pins and spread terminals?**

| | |
|---|---|
| **Yes** | GO to J7 |

| | |
|---|---|
| **No** | REPAIR the connector or terminals.<br>Refer to Wiring Diagrams Cell 5for schematic and connector information. |

**J7 CHECK FOR CORRECT VDM (VEHICLE DYNAMICS CONTROL MODULE) OPERATION**

- Connect LH (left-hand) rear height sensor C4092. Make sure they seat and latch correctly.
- Connect all VDM (vehicle dynamics control module) connectors. Make sure they seat and latch 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.<br>If no service articles exist for this concern, INSTALL a new VDM (vehicle dynamics control module) |

| | | |
|---|---|---|
| VDM (vehicle dynamics control module) U200E:11 | Control Module Output Power B: Circuit Short To Ground | Sets in continuous memory when the VDM (vehicle dynamics control module) detects if rear height sensor supply voltage is less than 4.7 volts for 250 milliseconds. |
| VDM (vehicle dynamics control module) U200E:12 | Control Module Output Power B: Circuit Short To Battery | Sets in continuous memory when the VDM (vehicle dynamics control module) detects if rear height sensor supply voltage is greater than 5.2 volts for 250 milliseconds. |

**Possible Sources**

- Wiring, terminals or connectors
- Height sensor
- VDM (vehicle dynamics control module)

**Visual Inspection and Pre-checks**

- Make sure the height sensor harness is routed correctly and is undamaged.
- Make sure the height sensor electrical connector is free from any corrosion or other contaminants.
- Make sure the height sensor brackets are not damaged.

**NOTICE**

Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may cause damage to the connector.

**K1 CHECK THE VDM (VEHICLE DYNAMICS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)**

| | |
|---|---|
| | If the connector is OK, REPAIR the affected circuit. |

| | |
|---|---|
| **No** | GO to K5 |

**K3 CHECK THE RH (RIGHT-HAND) REAR HEIGHT SENSOR CIRCUITS FOR A SHORT TO GROUND**

- Ignition OFF.
- Disconnect VDM (vehicle dynamics control module) C4396 .
- Disconnect RH (right-hand) rear height sensor C4093 .
- Measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4093-1 | Ω | Ground |
| C4093-2 | Ω | Ground |
| C4093-3 | Ω | Ground |

**Are the resistance greater than 10,000 ohms?**

| | |
|---|---|
| **Yes** | GO to K4 |

| | |
|---|---|
| **No** | INSPECT the height sensor connector for corrosion, pushed out pins, bent pins and spread terminals. REPAIR as necessary.<br>If the connector is OK, REPAIR the affected circuit. |

**K4 CHECK THE RH (RIGHT-HAND) REAR HEIGHT SENSOR CIRCUITS FOR AN OPEN**

- Measure:

| | | |
|---|---|---|
| C4093-2 | Ω | C4093-3 |

**Are the resistances greater than 10,000 ohms?**

| | |
|---|---|
| **Yes** | INSTALL a new height sensor.<br>REFER to: Rear Suspension Height Sensor (204-05 Vehicle Dynamic Suspension, Removal and Installation).<br>If the concern is still present after height sensor replacement, GO to K6 |

| | |
|---|---|
| **No** | INSPECT the height sensor connector for corrosion, pushed out pins, bent pins and spread terminals. REPAIR as necessary.<br>If the connector is OK, REPAIR the affected circuit. |

**K6 VERIFY ALL WIRING CONNECTIONS**

- Ignition OFF.
- Disconnect all VDM (vehicle dynamics control module) connectors.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary

**Are the connectors free of corrosion, damaged pins, bent pins, pushed-out pins and spread terminals?**

| | |
|---|---|
| **Yes** | GO to K7 |

| | |
|---|---|
| **No** | REPAIR the connector or terminals.<br>Refer to Wiring Diagrams Cell 5for schematic and connector information. |

**K7 CHECK FOR CORRECT VDM (VEHICLE DYNAMICS CONTROL MODULE) OPERATION**

- Connect RH (right-hand) rear height sensor C4093. Make sure they seat and latch correctly.

| | | |
|---|---|---|
| VDM (vehicle dynamics control module) U0100:08 | Lost Communication With ECM/PCM 'A': Bus Signal/Message Failures | This DTC (diagnostic trouble code) sets in continuous memory if any one of the following messages is missing: vehicle operating modes. This can be due to a PCM (powertrain control module) failure, a circuit failure on the FD-CAN (Flexible Data Rate Controller Area Network) or an excessive load on the network |

**Possible Sources**

- Wiring, terminals or connectors
- Network communication concern
- Vehicle battery
- Charging system concern
- PCM (powertrain control module)

**L1 CHECK THE COMMUNICATION NETWORK**

- Ignition OFF.
- Using a diagnostic scan tool, carry out the Network Test.

**Does the PCM (powertrain control module) pass the Network Test?**

| | |
|---|---|
| **Yes** | GO to L2 |

| | |
|---|---|
| **No** | DIAGNOSE the PCM (powertrain control module) does not respond to the diagnostic scan tool. REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing). |

**L2 CHECK THE VDM (VEHICLE DYNAMICS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)**

- Using a diagnostic scan tool, carry out the VDM (vehicle dynamics control module) self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Open then Close drivers door.
- Wait 2 1/2 minutes.
- Ignition ON.
- Using a diagnostic scan tool, carry out the VDM (vehicle dynamics control module) self-test.
- Record the VDM (vehicle dynamics control module) Diagnostic Trouble Codes (DTCs).

**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 PCM (powertrain control module) or VDM (vehicle dynamics control module) . If recent service history is found:
  - verify the correct replacement module was installed.
    - HVBOM may be used to verify correct part fitment.
  - verify the configuration of replacement module was correct.
    - re-configure the module by reprogramming 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 L6 |

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

**L6 VERIFY ALL WIRING CONNECTIONS**

- Ignition OFF.
- Disconnect all PCM (powertrain control module) connectors.
- Using a good light source, inspect all disconnected electrical connectors for the following:
  - corrosion - install new connector or terminal and clean the module pins
  - damaged or bent pins - install new terminals or pins
  - pushed-out pins - install new pins as necessary
  - spread terminals - install new terminals as necessary

**Are the connectors free of corrosion, damaged pins, bent pins, pushed-out pins and spread terminals?**

| | |
|---|---|
| **Yes** | GO to L7 |