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## 1970 FORD Mustang OEM Service and Repair Workshop Manual

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**Are any Diagnostic Trouble Codes (DTCs) present?**

| | |
|---|---|
| **Yes** | REFER to the SODL (side obstacle detection control module LH) , SODR (side obstacle detection control module RH) and APIM (SYNC module) DTC (diagnostic trouble code) chart in this section. |
| **No** | GO to H5 |

**H5 CHECK THE MESSAGE CENTER FOR CORRECT OPERATION**

- Check the message center for correct operation while turning the BLIS (blind spot information system) ® and CTA (cross traffic alert) system on and off.

**Does the message center function correctly?**

| | |
|---|---|
| **Yes** | The system is operating correctly at this time. The concern may have been caused by an intermittent fault condition. |
| **No** | REFER to: Instrumentation, Message Center and Warning Chimes(413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing). |

**H6 CHECK THE INFORMATION AND ENTERTAINMENT DISPLAY UNIT FOR CORRECT OPERATION**

- Check the information and entertainment display unit driver assist menu for correct operation while turning the BLIS (blind spot information system) and CTA (cross traffic alert) system on and off.

**Does the information and entertainment display unit driver assist menu function correctly?**

| | |
|---|---|
| **Yes** | The system is operating correctly at this time. The concern may have been caused by an intermittent fault condition. |
| **No** | See the Symptom Chart: Information And Entertainment System.<br>REFER to: Information and Entertainment System<br>(415-00 Information and Entertainment System - General Information, Diagnosis and Testing). |

| | |
|---|---|
| **Yes** | REFER to: Steering Wheel and Column Electrical Components(211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing). |
| **No** | The system is operating correctly at this time. The concern may have been caused by an intermittent fault condition. |

**PINPOINT TEST K : THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) DOES NOT RESPOND TO DIAGNOSTIC SCAN TOOL**

Refer to Wiring Diagrams Cell 146for schematic and connector information.
**Normal Operation and Fault Conditions** The SODL (side obstacle detection control module LH) communicates with the IPMA (image processing module A) through a private CAN (controller area network) bus. **Possible Sources**

- Wiring, terminals and connector
- SODL (side obstacle detection control module LH)

**K1 CHECK FOR IPMA (IMAGE PROCESSING MODULE A) NETWORK CONNECTION**

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

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

| | |
|---|---|
| **Yes** | GO to K2 |
| **No** | DIAGNOSE an IPMA (image processing module A) communication concern. REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing). |

**K2 CHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) VOLTAGE SUPPLY CIRCUIT FOR AN OPEN**

- Ignition OFF.

| | |
|---|---|
| **Yes** | GO to K3 |

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

**K3 CHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) GROUND CIRCUITS FOR AN OPEN**

- Ignition OFF.
- For Incandescent rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C412B-2 | Ω | Ground |
| C412B-5 | Ω | Ground |

- For Incandescent rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C498-2 | Ω | Ground |
| C498-5 | Ω | Ground |

- For LED (light emitting diode)  rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|

| | | |
|---|---|---|
| C412B-5 | Ω | C242B-5 |

- For Incandescent rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C498-2 | Ω | C242B-5 |
| C498-5 | Ω | C242B-5 |

- For LED (light emitting diode)  rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4483-5 | Ω | C242B-5 |
| C4483-9 | Ω | C242B-5 |

- For LED (light emitting diode)  rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4485-5 | Ω | C242B-5 |
| C4485-9 | Ω | C242B-5 |

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

| | | |
|---|---|---|
| C4483-6 | V | Ground |
| C4483-12 | V | Ground |

- For LED (light emitting diode)  rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4485-6 | V | Ground |
| C4485-12 | V | Ground |

**Is any voltage present?**

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

| | |
|---|---|
| **No** | GO to K6 |

**K6 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TO GROUND**

- Ignition OFF.
- For Incandescent rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C412B-3 | Ω | Ground |

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

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

**K7 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TOGETHER**

- For Incandescent rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C412B-3 | Ω | C412B-4 |

- For Incandescent rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C498-3 | Ω | C498-4 |

- For LED (light emitting diode) rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4483-6 | Ω | C4483-12 |

- For LED (light emitting diode) rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4485-6 | Ω | C4485-12 |

| | | |
|---|---|---|
| C4483-6 | Ω | C242B-16 |
| C4483-12 | Ω | C242B-15 |

- For LED (light emitting diode) rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4485-6 | Ω | C242B-16 |
| C4485-12 | Ω | C242B-15 |

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

| | |
|---|---|
| **Yes** | GO to K9 |

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

**K9 CHECK FOR CORRECT SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) OPERATION**

- Ignition OFF.
- Disconnect and inspect the SODL (side obstacle detection control module LH) connector and related in-line connectors.
- 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 SODL (side obstacle detection control module LH) connector and related in-line connectors. Make sure all connectors seat and latch correctly.
- Operate the system and determine if the concern is still present.

| | |
|---|---|
| **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 L : THE SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DOES NOT RESPOND TO DIAGNOSTIC SCAN TOOL**

Refer to Wiring Diagrams Cell 146for schematic and connector information.
**Normal Operation and Fault Conditions** The SODR (side obstacle detection control module RH) communicates with the IPMA (image processing module A) through a private CAN (controller area network) bus. **Possible Sources**

- Wiring, terminals and connector
- SODR (side obstacle detection control module RH)

**L1 CHECK FOR IPMA (IMAGE PROCESSING MODULE A) NETWORK CONNECTION**

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

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

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

| | |
|---|---|
| **No** | DIAGNOSE an IPMA (image processing module A) communication concern.<br>REFER to: Controller Area Network (CAN) Module Communications Network<br>(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing). |

**L2 CHECK THE SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) VOLTAGE SUPPLY CIRCUIT FOR AN OPEN**

- Ignition OFF.
- Disconnect: SODR (side obstacle detection control module RH) C415B (Incandescent rear lamps without smart hitch) or C499 (Incandescent rear lamps with smart hitch)
- Disconnect: SODR (side obstacle detection control module RH) C4484 ( LED (light emitting diode) rear lamps with or without smart hitch)
- Ignition ON.
- For Incandescent rear lamps without smart hitch, measure:

**L3 CHECK THE SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) GROUND CIRCUIT FOR AN OPEN**

- Ignition OFF.
- For Incandescent rear lamps without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C415B-2 | Ω | Ground |

- For Incandescent rear lamps with smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C499-2 | Ω | Ground |

- For LED (light emitting diode)  rear lamps with or without smart hitch, measure:

| Positive Lead | Measurement / Action | Negative Lead |
|---|---|---|
| C4484-5 | Ω | Ground |

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

| | |
|---|---|
| **Yes** | GO to L5 |

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

**L4 CHECK THE SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) GROUND CIRCUIT FOR AN OPEN BY ISOLATING IPMA (IMAGE PROCESSING MODULE A)**

- Disconnect IPMA (image processing module A)  C242B .