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1969 FORD Mustang OEM Service and Repair Workshop Manual



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C415B-3		Ground
C415B-4		Ground

- For Incandescent rear lamps with smart hitch, measure:

Positive Lead	Measurement / Action	Negative Lead
C499-3		Ground
C499-4		Ground

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

Positive Lead	Measurement / Action	Negative Lead
C4484-6		Ground
C4484-12		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
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No	GO to L6
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Yes	GO to L7
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No	REPAIR the circuit in question.
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L7 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
C415B-3	Ω	C415B-4

- For Incandescent rear lamps with smart hitch, measure:

Positive Lead	Measurement / Action	Negative Lead
C499-3	Ω	C499-4

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

Positive Lead	Measurement / Action	Negative Lead
C4484-6	Ω	C4484-12

Are the resistances greater than 10,000 ohms?

Yes	GO to L8
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Are the resistances less than 3 ohms?

Yes	GO to L9
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No	REPAIR the circuit in question.
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L9 CHECK FOR CORRECT SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODR (side obstacle detection control module RH) 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 SODR (side obstacle detection control module RH) 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.

Is the concern still present?

Yes	<p>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 SODR (side obstacle detection control module RH) .</p> <p>REFER to: Side Obstacle Detection Control Module (SODCM) (419-04A Side and Rear Vision, Removal and Installation).</p> <p>If the concern is still present, GO to L10</p>
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No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.
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L10 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION

- Disconnect and inspect all the IPMA (image processing module A) connectors.

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).

M2 CHECK THE SODCMC (SIDE OBSTACLE DETECTION CONTROL MODULE C) VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: SODCMC (Side Obstacle Detection Control Module C) C1483
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1483-1	\bar{V}	Ground

Is the voltage greater than 11 volts?

Yes GO to [M3](#)

No REPAIR the circuit.

M3 CHECK THE SODCMC (SIDE OBSTACLE DETECTION CONTROL MODULE C) GROUND CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1483-4	Ω	Ground

- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1483-3	\bar{V}	Ground
C1483-2	\bar{V}	Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
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No	GO to M6
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M6 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1483-3	Ω	Ground
C1483-2	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to M7
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No

REPAIR the circuit in question.

M9 CHECK FOR CORRECT SODCMC (SIDE OBSTACLE DETECTION CONTROL MODULE C) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODCMC (Side Obstacle Detection Control Module C) 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 SODCMC (Side Obstacle Detection Control Module C) 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.

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 SODCMC (Side Obstacle Detection Control Module C) .

REFER to: [Side Obstacle Detection Control Module C \(SODCMC\)](#) (419-04A Side and Rear Vision, Removal and Installation).

If the concern is still present, GO to [M10](#)

No

The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

M10 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION

- Disconnect and inspect all the IPMA (image processing module A) 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

(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

N2 CHECK THE SODCMD (SIDE OBSTACLE DETECTION CONTROL MODULE D) VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: SODCMD (Side Obstacle Detection Control Module D) C1484
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1484-1	\bar{V}	Ground

Is the voltage greater than 11 volts?

Yes GO to [N3](#)

No REPAIR the circuit.

N3 CHECK THE SODCMD (SIDE OBSTACLE DETECTION CONTROL MODULE D) GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1484-4	Ω	Ground

Is the resistance less than 3 ohms?

C1484-2		Ground
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Is any voltage present?

Yes	REPAIR the circuit in question.
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No	GO to N6
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N6 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1484-3	Ω	Ground
C1484-2	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to N7
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No	REPAIR the circuit in question.
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N7 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TOGETHER

- Measure:

Positive Lead	Measurement / Action	Negative Lead
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- 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 SODCMD (Side Obstacle Detection Control Module D) 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.

Is the concern still present?

Yes	<p>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 SODCMD (Side Obstacle Detection Control Module D) .</p> <p>REFER to: Side Obstacle Detection Control Module D (SODCMD) (419-04A Side and Rear Vision, Removal and Installation).</p> <p>If the concern is still present, GO to N10</p>
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No	<p>The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.</p>
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N10 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION

- Disconnect and inspect all the IPMA (image processing module A) 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 IPMA (image processing module A) 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	<p>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 IPMA (image processing module A) .</p> <p>REFER to: Image Processing Module A (IPMA)</p>
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