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2016 FORD Focus 5 Doors OEM Service and Repair Workshop Manual

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- Ignition OFF.
- Disconnect left front active park assist sensor C1854 .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1854-1	\bar{V}	Ground

Is the voltage greater than 9 volts?

Yes	GO to A4
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No	REPAIR the circuit.
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A4 CHECK FOR GROUND AT THE SENSOR

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1854-1	\bar{V}	C1854-3

Is the voltage greater than 9 volts?

Yes	GO to A5
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No	REPAIR the circuit.
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A5 CHECK THE SENSOR FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1854-2	Ω	C1854-1
C1854-2	Ω	C1854-3

Are the resistances greater than 10,000 ohms?

Yes	GO to A8
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No	REPAIR the affected circuits.
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A8 CHECK THE SENSOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1854-1	Ω	C242A-22
C1854-2	Ω	C242A-7
C1854-3	Ω	C242A-11

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) (419-07 Lane Keeping System, Removal and Installation).</p>
No	<p>The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.</p>

PINPOINT TEST B : B129D:08

NOTE

Before disconnecting any of the active park assist sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell 145 for schematic and connector information.

Normal Operation and Fault Conditions REFER to: [Parking Aid - System Operation and Component Description](#)

(413-13C Parking Aid - Vehicles With: Active Park Assist, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPMA (image processing module A) B129D:08	Right Front Side Sensor: Bus Signal/Message Failures	A continuous and on-demand DTC (diagnostic trouble code) that sets in the IPMA (image processing module A) when there is a message failure on the LIN (local interconnect network) for the right front active park assist sensor.

Possible Sources

- Wiring, terminals or connectors
- Right front active park assist sensor
- IPMA (image processing module A)

Is the voltage greater than 9 volts?

Yes	GO to B4
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No	REPAIR the circuit.
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B4 CHECK FOR GROUND AT THE SENSOR

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1855-1	V	C1855-3

Is the voltage greater than 9 volts?

Yes	GO to B5
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No	REPAIR the circuit.
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B5 CHECK THE SENSOR FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1855-2	Ω	Ground

Is the resistance greater than 10,000 ohms?

C1855-2	Ω	C1855-3
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Are the resistances greater than 10,000 ohms?

Yes	GO to B8
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No	REPAIR the affected circuits.
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B8 CHECK THE SENSOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1855-1	Ω	C242A-22
C1855-2	Ω	C242A-8
C1855-3	Ω	C242A-11

Are the resistances less than 3 ohms?

Yes	GO to B9
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No	REPAIR the affected circuit.
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B9 INSTALL A KNOWN GOOD SENSOR

No	The system is operating correctly at this time. The 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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PINPOINT TEST C : B13F3:08

NOTE

Before disconnecting any of the active park assist sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell 145 for schematic and connector information.

Normal Operation and Fault Conditions REFER to: [Parking Aid - System Operation and Component Description](#) (413-13C Parking Aid - Vehicles With: Active Park Assist, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPMA (image processing module A) B13F3:08	Left Rear Side Sensor: Bus Signal/Message Failures	A continuous and on-demand DTC (diagnostic trouble code) that sets in the IPMA (image processing module A) when there is a message failure on the LIN (local interconnect network) for the left rear active park assist sensor.

Possible Sources


- Wiring, terminals or connectors
- Left rear active park assist sensor
- IPMA (image processing module A)

C1 CHECK THE DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE IPMA (IMAGE PROCESSING MODULE A) SELF-TEST

- Ignition ON.
- Using a diagnostic scan tool, perform the IPMA (image processing module A) self-test.
- Check the IPMA (image processing module A) Diagnostic Trouble Codes (DTCs) from the self-test.

Are Diagnostic Trouble Codes (DTCs) for multiple front parking aid sensors recorded?

- Ignition OFF.
- Disconnect left rear active park assist sensor C4420 .
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4420-1		Ground


Is the voltage greater than 9 volts?

Yes	GO to C4
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No	REPAIR the circuit.
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C4 CHECK FOR GROUND AT THE SENSOR

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4420-1		C4420-3

Is the voltage greater than 9 volts?

Yes	GO to C5
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No	REPAIR the circuit.
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C5 CHECK THE SENSOR FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4420-2	Ω	C4420-1
C4420-2	Ω	C4420-3

Are the resistances greater than 10,000 ohms?

Yes	GO to C8
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No	REPAIR the affected circuits.
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C8 CHECK THE SENSOR CIRCUITS FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C4420-1	Ω	C242A-15
C4420-2	Ω	C242A-19
C4420-3	Ω	C242A-4

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) (419-07 Lane Keeping System, Removal and Installation).</p>
No	<p>The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.</p>

PINPOINT TEST D : B13F4:08

NOTE

Before disconnecting any of the active park assist sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell 145 for schematic and connector information.

Normal Operation and Fault Conditions REFER to: [Parking Aid - System Operation and Component Description](#)

(413-13C Parking Aid - Vehicles With: Active Park Assist, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPMA (image processing module A) B13F4:08	Right Rear Side Sensor: Bus Signal/Message Failures	A continuous and on-demand DTC (diagnostic trouble code) that sets in the IPMA (image processing module A) when there is a message failure on the LIN (local interconnect network) for the right rear active park assist sensor.

Possible Sources

- Wiring, terminals or connectors
- Right rear active park assist sensor
- IPMA (image processing module A)