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## 2014 FORD Ranger Regular Cab OEM Service and Repair Workshop Manual

[Go to manual page](#)

## Rear View Mirrors

<b>501-09 Rear View Mirrors</b>	<b>2022 F-150</b>
<b>Diagnosis and Testing</b>	<b>Procedure revision date: 07/29/2022</b>

### Rear View Mirrors

#### Diagnostic Trouble Code (DTC) Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#)

(100-00 General Information, Description and Operation).

#### Diagnostic Trouble Code Chart

Module	DTC (diagnostic trouble code)	Description	Action
DDM (driver door module)	B1163:11	Left Mirror Heater Output: Circuit Short To Ground	<a href="#">GO to Pinpoint Test F</a>
DDM (driver door module)	B1163:15	Left Mirror Heater Output: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test F</a>
DDM (driver door module)	B11F6:11	Driver Folding Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test G</a>
DDM (driver door module)	B11F6:15	Driver Folding Mirror Motor: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test G</a>
DDM (driver door module)	B15F6:11	Driver Telescoping Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test V</a>

PDM (passenger door module)	B11F7:15	Passenger Folding Mirror Motor: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test G</a>
PDM (passenger door module)	B15F7:11	Passenger Telescoping Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test V</a>
PDM (passenger door module)	B15F7:15	Passenger Telescoping Mirror Motor: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test V</a>
PDM (passenger door module)	B1C11:11	Passenger Left/Right Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test C</a>
PDM (passenger door module)	B1C11:15	Passenger Left/Right Mirror Motor: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test C</a>
PDM (passenger door module)	B1C12:11	Passenger Up/Down Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test C</a>
PDM (passenger door module)	B1C12:15	Passenger Up/Down Mirror Motor: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test C</a>
PDM (passenger door module)	B1C15:11	Passenger Up/Down Mirror Motor Feedback: Circuit Short To Ground	<a href="#">GO to Pinpoint Test E</a>
PDM (passenger door module)	B1C15:15	Passenger Up/Down Mirror Motor Feedback: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test E</a>
PDM (passenger door module)	B1C16:11	Passenger Left/Right Mirror Motor Feedback: Circuit Short To Ground	<a href="#">GO to Pinpoint Test E</a>
PDM (passenger door module)	B1C16:15	Passenger Left/Right Mirror Motor Feedback: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test E</a>
PDM (passenger door module)	C1B15:11	Sensor Supply Voltage B: Circuit Short To Ground	<a href="#">GO to Pinpoint Test E</a>
PDM (passenger door module)	C1B15:15	Sensor Supply Voltage B: Circuit Short To Battery or Open	<a href="#">GO to Pinpoint Test E</a>

### Global Customer Symptom Code (GCSC) Chart

Lighting/Glass/Vision > Defrost > Mirror > Inoperative	<a href="#">GO to Pinpoint Test L</a>
Lighting/Glass/Vision > Exterior Lighting > Turn Signal > Inoperative	<a href="#">GO to Pinpoint Test O</a>
Lighting/Glass/Vision > Exterior Lighting > Turn Signal > Stays On	<a href="#">GO to Pinpoint Test O</a>
Lighting/Glass/Vision > Exterior Lighting > Puddle > Inoperative	<a href="#">GO to Pinpoint Test N</a>
Lighting/Glass/Vision > Exterior Lighting > Puddle > Stays On	<a href="#">GO to Pinpoint Test N</a>
Lighting/Glass/Vision > Noise > Mirror > Always	<a href="#">GO to Pinpoint Test U</a>
Lighting/Glass/Vision > Noise > Mirror > Intermittent	<a href="#">GO to Pinpoint Test U</a>

### DTC (diagnostic trouble code) Chart: DDM (driver door module)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#)

(100-00 General Information, Description and Operation).

Module	DTC	Description	Action
DDM (driver door module)	B11F6:11	Driver Folding Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test G</a>
DDM (driver door module)	B11F6:15	Driver Folding Mirror Motor: Circuit Short To Battery or Open	<a href="#">GO to Pinpoint Test G</a>
DDM (driver door module)	B1163:11	Left Mirror Heater Output: Circuit Short To Ground	<a href="#">GO to Pinpoint Test F</a>
DDM (driver door module)	B1163:15	Left Mirror Heater Output: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test F</a>
DDM (driver door)	B1C09:11	Driver Left/Right Mirror Motor: Circuit Short To	<a href="#">GO to Pinpoint Test C</a>

	Diagnostic Trouble Codes (DTCs)		Latches and Entry Systems, Diagnosis and Testing).
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### DTC (diagnostic trouble code) Chart: PDM (passenger door module)

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: [Diagnostic Methods](#)

(100-00 General Information, Description and Operation).

Module	DTC	Description	Action
PDM (passenger door module)	B11F7:11	Passenger Folding Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test G</a>
PDM (passenger door module)	B11F7:15	Passenger Folding Mirror Motor: Circuit Short To Battery or Open	<a href="#">GO to Pinpoint Test G</a>
PDM (passenger door module)	B1164:11	Right Mirror Heater Output: Circuit Short To Ground	<a href="#">GO to Pinpoint Test F</a>
PDM (passenger door module)	B1164:15	Right Mirror Heater Output: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test F</a>
PDM (passenger door module)	B1C11:11	Passenger Left/Right Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test C</a>
PDM (passenger door module)	B1C11:15	Passenger Left/Right Mirror Motor: Circuit Short To Battery Or Open	<a href="#">GO to Pinpoint Test C</a>
PDM (passenger door module)	B1C12:11	Passenger Up/Down Mirror Motor: Circuit Short To Ground	<a href="#">GO to Pinpoint Test C</a>

## NOTE

Clean the entire mirror assembly and glass to assist in verification of the customer concern and/or impact damage. Do not clean any mirror glass or housing with an ice scraper, razor blade, abrasive pad, harsh chemicals or petroleum based cleaning products, as these may damage the mirror glass and/or housing.

Condition	Action
One or both exterior mirrors fold inward due to wind pressure	<a href="#">GO to Pinpoint Test J</a>
One or both power fold exterior mirrors are inoperative or does not operate correctly - for vehicle with DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test G</a>
Both exterior mirrors are inoperative (with or without memory mirrors)	<a href="#">GO to Pinpoint Test K</a>
A single mirror is inoperative/does not operate correctly - for vehicle with DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test A</a>
A single mirror is inoperative/does not operate correctly - for vehicle without DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test B</a>
A single mirror horizontal or vertical operation does not function correctly - for vehicle with DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test C</a>
A single mirror horizontal or vertical operation does not function correctly - for vehicle without DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test D</a>
The exterior mirror memory recall feature is inoperative/does not operate correctly - for vehicle with DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test E</a>
One or both heated exterior mirrors are inoperative or always on - for vehicle with DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test F</a>
The LH (left-hand) and RH (right-hand) heated exterior mirrors do not defrost at the same rate - for vehicle with DDM (driver door module) / PDM (passenger door module)	<a href="#">GO to Pinpoint Test L</a>

(100-00 General Information, Description and Operation).

#### NOTE

Clean the entire mirror assembly and glass to assist in verification of the customer concern and/or impact damage. Do not clean any mirror glass or housing with an ice scraper, razor blade, abrasive pad, harsh chemicals or petroleum based cleaning products, as these may damage the mirror glass and/or housing.

Condition	Action
Exterior mirror housing vibrates or is loose	<a href="#">GO to Pinpoint Test S</a>
Exterior mirror glass vibrates or is loose	<a href="#">GO to Pinpoint Test T</a>
Wind noise	<a href="#">GO to Pinpoint Test U</a>

#### Pinpoint Tests

Refer to Wiring Diagrams Cell 124for schematic and connector information.

#### **PINPOINT TEST A : A SINGLE MIRROR IS INOPERATIVE/DOES NOT OPERATE CORRECTLY - FOR VEHICLE WITH DDM / PDM**

#### NOTE

Clean the entire mirror assembly and glass to assist in verification of the customer concern and/or impact damage. Do not clean any mirror glass or housing with an ice scraper, razor blade, abrasive pad, harsh chemicals or petroleum based cleaning products, as these may damage the mirror glass and/or housing.

Refer to Wiring Diagrams Cell 124for schematic and connector information.

**Normal Operation and Fault Conditions** REFER to: [Rear View Mirrors - System Operation and Component Description](#)

(501-09 Rear View Mirrors, Description and Operation).

#### **Possible Sources**

- Wiring, terminals or connectors
- Power window concern
- Exterior mirror control switch (integral to the LH (left-hand) front window control switch)
- Exterior mirror motor
- Exterior mirror

#### **Visual Inspection and Pre-checks**

**LH (left-hand)**

Positive Lead	Measurement / Action	Negative Lead
C501B-21	$\Omega$	C521-4

**RH (right-hand)**

Positive Lead	Measurement / Action	Negative Lead
C652B-21	$\Omega$	C622-4

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

<b>Yes</b>	GO to <a href="#">A3</a>
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<b>No</b>	REPAIR the circuit.
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**A3 CHECK THE EXTERIOR MIRROR JUMPER HARNESS**

- Inspect the exterior mirror jumper harness between the vehicle harness and the mirror motors for:
  - Open or short circuits
  - Damaged or pushed out pins
  - Corrosion


**Is the harness OK?**

<b>Yes</b>	INSTALL a new exterior mirror motor for the one in question. REFER to: <a href="#">Exterior Mirror - Vehicles With: Long Arm Mirrors</a> (501-09 Rear View Mirrors, Removal and Installation). REFER to: <a href="#">Exterior Mirror - Vehicles With: Short Arm Mirrors</a> (501-09 Rear View Mirrors, Removal and Installation).
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- Ignition OFF.
- Disconnect: inoperative exterior mirror C521 ( LH (left-hand) exterior mirror) or C622 ( RH (right-hand) exterior mirror).
- Ignition ON.
- Select the inoperative exterior mirror by pressing the appropriate exterior mirror selection switch.
- Connect:

#### LH (left-hand) exterior mirror

Positive Lead	Measurement / Action	Negative Lead
C521-3		C521-4

#### RH (right-hand) exterior mirror

Positive Lead	Measurement / Action	Negative Lead
C622-3		C622-4

- Observe the test light while holding the exterior mirror control switch in the up position.

#### Did the test light illuminate?

<b>Yes</b>	<p>CHECK the inoperative exterior mirror jumper harness between the vehicle harness and the exterior mirror motor for open circuits and damaged or pushed-out pins. If the jumper harness is not OK, REPAIR the jumper harness. If the jumper harness cannot be repaired, INSTALL a new exterior mirror.</p> <p>REFER to: <a href="#">Exterior Mirror - Vehicles With: Long Arm Mirrors</a> (501-09 Rear View Mirrors, Removal and Installation).</p> <p>REFER to: <a href="#">Exterior Mirror - Vehicles With: Short Arm Mirrors</a> (501-09 Rear View Mirrors, Removal and Installation).</p>
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<b>No</b>	GO to <a href="#">B2</a>
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harsh chemicals or petroleum based cleaning products, as these may damage the mirror glass and/or housing.

Refer to Wiring Diagrams Cell 124 for schematic and connector information.

**Normal Operation and Fault Conditions** REFER to: [Rear View Mirrors - System Operation and Component Description](#)

(501-09 Rear View Mirrors, Description and Operation).

**DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
DDM (driver door module) B1C09:11	Driver Left/Right Mirror Motor: Circuit Short To Ground	A continuous and on-demand DTC (diagnostic trouble code) that sets in the DDM (driver door module) if the DDM (driver door module) detects a higher than expected current draw when voltage is applied to the horizontal mirror motor circuit.
DDM (driver door module) B1C09:15	Driver Left/Right Mirror Motor: Circuit Short To Battery Or Open	A continuous and on-demand DTC (diagnostic trouble code) that sets in the DDM (driver door module) if the DDM (driver door module) detects a lower than expected current draw when voltage is applied to the horizontal mirror motor circuit.
DDM (driver door module) B1C10:11	Driver Up/Down Mirror Motor: Circuit Short To Ground	A continuous and on-demand DTC (diagnostic trouble code) that sets in the DDM (driver door module) if the DDM (driver door module) detects a higher than expected current draw when voltage is applied to the vertical mirror motor circuit.
DDM (driver door module) B1C10:15	Driver Up/Down Mirror Motor: Circuit Short To Battery Or Open	A continuous and on-demand DTC (diagnostic trouble code) that sets in the DDM (driver door module) if the DDM (driver door module) detects a lower than expected current draw when voltage is applied to the vertical mirror motor circuit.
PDM (passenger door module) B1C11:11	Passenger Left/Right Mirror Motor: Circuit Short To Ground	A continuous and on-demand DTC (diagnostic trouble code) that sets in the PDM (passenger door module) if the PDM (passenger door module) detects a higher than expected current draw when voltage is applied to the horizontal mirror motor circuit.
PDM (passenger door module)	Passenger Left/Right Mirror Motor: Circuit	A continuous memory DTC (diagnostic trouble code) that sets in the PDM (passenger door module) if the PDM