

# Your Ultimate Source for OEM Repair Manuals

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## 2018 FORD Ranger Regular Cab OEM Service and Repair Workshop Manual

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Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may cause damage to the connector. Use only Rotunda Flex Probes (NUD105-R025D)

## I1 VERIFY THE OPERATION OF THE REVERSE LAMPS

- Ignition ON.

### NOTE

If the TR (transmission range) sensor is malfunctioning and the reverse lamps are inoperative or always on, the interior auto-dimming mirror will not function properly.

Move the selector lever through the entire range while monitoring the reverse lamps.

- Select PARK.

### Do the reverse lamps illuminate **ONLY** in REVERSE?

<b>Yes</b>	GO to <a href="#">I2</a>
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<b>No</b>	DIAGNOSE the reversing lamps. REFER to: <a href="#">Reversing Lamps</a> (417-01 Exterior Lighting, Diagnosis and Testing).
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## I2 INSPECT THE MIRROR FOR PROPER INSTALLATION

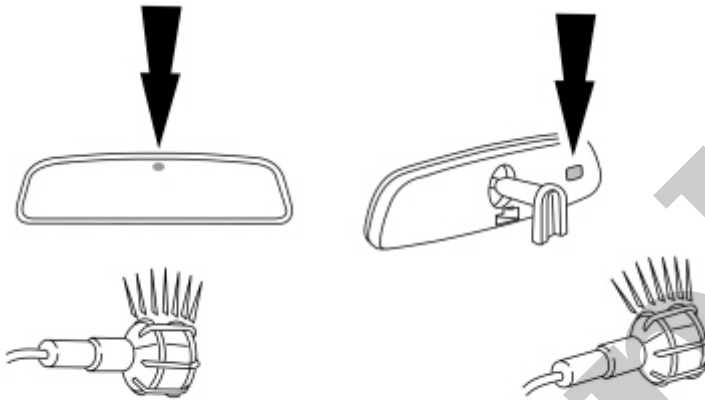
- Inspect the interior auto-dimming mirror to make sure the rearward facing sensor is at the top of the mirror glass.

No

GO to [I4](#)

#### I4 VERIFY THE OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - DAYLIGHT CONDITIONS

- Use a bright lamp to illuminate the forward facing sensor and the rearward facing sensor. The mirror should adjust to a high reflectance state (mirror will be clear).



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Did the mirror adjust to a high reflectance (clear) state?

Yes

GO to [I5](#)

No

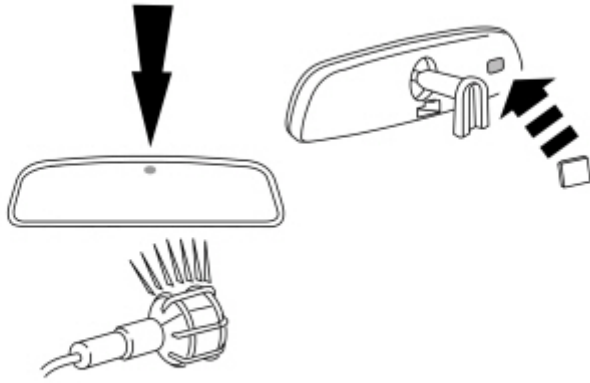
INSTALL a new interior auto-dimming mirror.  
REFER to: [Interior Rear View Mirror](#)  
(501-09 Rear View Mirrors, Removal and Installation).

#### I5 VERIFY THE OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - NIGHTTIME CONDITIONS

- **NOTE**

Covering the sensor(s) with a finger or hand is not adequate for this step.

Cover the forward and rearward facing sensors with black electrical tape or other dark material. The mirror should adjust to a high reflectance state (mirror will be clear).



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- Use a bright light to illuminate the rearward facing sensor. The mirror should adjust to a lower reflectance state (mirror will be dark).

**Did the mirror adjust to a low reflectance (dark) state?**

<b>Yes</b>	GO to <a href="#">17</a>
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<b>No</b>	GO to <a href="#">18</a>
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## **17 VERIFY THE OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - VEHICLE IN REVERSE AND NIGHTTIME CONDITIONS WITH GLARE**

- **NOTE**

Covering the sensor(s) with a finger or hand is not adequate for this step.

Continue to illuminate the rearward facing sensor with the forward facing sensor covered.

<b>Yes</b>	GO to <a href="#">I9</a>
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<b>No</b>	VERIFY that BCM (body control module) fuse 36 (15A) is OK. If the fuse is OK, REPAIR the circuit. If the fuse is not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.
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**I9 CHECK FOR GROUND AT THE INTERIOR AUTO-DIMMING MIRROR**

- Ignition OFF.
- Measure:

**Interior auto-dimming mirror**

Positive Lead	Measurement / Action	Negative Lead
C9039-4	$\Omega$	Ground

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

<b>Yes</b>	GO to <a href="#">I9</a>
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<b>No</b>	REPAIR the circuit.
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**I10 CHECK THE REVERSE INHIBIT CIRCUIT FOR VOLTAGE AT THE INTERIOR AUTO-DIMMING MIRROR WITH THE VEHICLE IN REVERSE**

- Ignition ON.
- Select REVERSE.
- Measure:

**Interior auto-dimming mirror**

Positive Lead	Measurement / Action	Negative Lead
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## PINPOINT TEST K : BOTH EXTERIOR MIRRORS ARE INOPERATIVE (WITH OR WITHOUT MEMORY MIRRORS)

### Normal Operation and Fault Conditions

The power mirror system allows the exterior mirror glass to be positioned electronically. The position of the exterior mirror glass is controlled by the exterior mirror control switch and the LH (left-hand) or RH (right-hand) mirror selection buttons determine which exterior mirror glass is controlled. If all power windows can be operated normally from the LH (left-hand) front door window control switch and LH (left-hand) and RH (right-hand) mirrors glass selection and positioning not possible. It indicates there is a concern with the LH (left-hand) front door window control switch.

### Possible Sources

- Wiring, terminals or connectors
- Power window concern
- Exterior mirror control switch (integral to the LH (left-hand) front door window control switch)
- DDM (driver door module) (if equipped)

### K1 CHECK FOR CORRECT EXTERIOR MIRROR OPERATION

- Ignition ON.
- For vehicle with DDM (driver door module) / PDM (passenger door module) :Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question.
- For vehicle without DDM (driver door module) / PDM (passenger door module) : Press the exterior mirror control switch in the up/down and right/left directions for the driver door window control switch in question.

### Was an obvious cause found?

<b>Yes</b>	<p>VERIFY that all power windows can be operated normally from the LH (left-hand) front door window control switch.</p> <p>If all power windows operate normally from the LH (left-hand) front door window control switch, INSTALL a new LH (left-hand) front door window control switch.</p> <p>REFER to: <a href="#">Driver Door Window Control Switch - Vehicles With: Front Power Windows</a> (501-11 Glass, Frames and Mechanisms, Removal and Installation).</p> <p>If all power window do not operate normally from the LH (left-hand) front door window control switch, DIAGNOSE the power windows before continuing diagnostics for the exterior mirrors.</p> <p>REFER to: <a href="#">Glass, Frames and Mechanisms - Vehicles With: One-Touch Open and Close Front Windows</a> (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).</p>
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## M1 CHECK FOR CORRECT EXTERIOR MIRROR SELECTION SWITCH OPERATION

- Ignition ON.
- For vehicle with DDM (driver door module) / PDM (passenger door module) : Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question.
- For vehicle without DDM (driver door module) / PDM (passenger door module) : Press the exterior mirror control switch in the up/down and right/left directions for the driver door window control switch in question.

### Was an obvious cause found?

<b>Yes</b>	INSTALL a new LH (left-hand) front door window control switch. REFER to: <a href="#">Driver Door Window Control Switch - Vehicles With: Front Power Windows</a> (501-11 Glass, Frames and Mechanisms, Removal and Installation).
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<b>No</b>	The repair is complete.
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## PINPOINT TEST N : THE EXTERIOR MIRROR PUDDLE LAMP IS INOPERATIVE OR ALWAYS ON - FOR VEHICLE WITH DDM / PDM

### Normal Operation and Fault Conditions

REFER to: [Interior Lighting - System Operation and Component Description](#)(417-02 Interior Lighting, Description and Operation).

### Possible Sources

- Interior lighting

## N1 CHECK FOR CORRECT EXTERIOR MIRROR PUDDLE LAMP OPERATION

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question.

### Was an obvious cause found?

<b>Yes</b>	REFER to: <a href="#">Interior Lighting</a> (417-02 Interior Lighting, Diagnosis and Testing).
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<b>No</b>	The repair is complete.
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<b>Yes</b>	REFER to: <a href="#">Blind Spot Information System</a> (419-04A Side and Rear Vision, Diagnosis and Testing).
<b>No</b>	The repair is complete.

## PINPOINT TEST Q : THE INTERIOR MIRROR IS BLEMISHED

### Normal Operation and Fault Conditions

A interior mirror is to allow the driver to see rearward through the vehicle's rear windshield. If mirror vision not clear, it indicates there is a concern with interior mirror.

### Possible Sources

- Interior mirror glass/housing is dirty

### Q1 CHECK FOR THE INTERIOR MIRROR SURFACE

- Check the dirt on interior mirror glass/housing.

### Was an obvious cause found?

<b>Yes</b>	CLEAN the affected interior mirror surface. VERIFY the concern again, if concern still exists. INSTALL a new interior mirror. REFER to: <a href="#">Interior Rear View Mirror</a> (501-09 Rear View Mirrors, Removal and Installation).
<b>No</b>	The repair is complete.

## PINPOINT TEST R : THE INTERIOR MIRROR VIBRATES OR IS LOOSE

### Normal Operation and Fault Conditions

A interior mirror is to allow the driver to see rearward through the vehicle's rear windshield. If mirror mountings are loose it start vibrates.

### Possible Sources

- Interior mirror mounting loose

### R1 CHECK FOR THE INTERIOR MIRROR MOUNTINGS



## S2 SYNCHRONIZED POWER FOLDING MIRRORS (IF EQUIPPED)

- Ignition ON.
- Using a diagnostic scan tool, synchronize the power folding mirrors.

### Was an obvious cause found?

<b>Yes</b>	If possible, REMOVE the aftermarket parts and ROAD TEST the vehicle. If the concern is no longer present, ADVISE the customer that the aftermarket components were causing the undesired vibration.
<b>No</b>	The repair is complete. The system is operating correctly at this time.

## PINPOINT TEST T : EXTERIOR MIRROR GLASS VIBRATES OR IS LOOSE

### Normal Operation and Fault Conditions

A exterior mirror glass is to allow the driver see areas behind and sides of the vehicle. When exterior mirror glass starts vibrates, it indicates there is a concern with exterior mirror housing and damaged backing plate.

### Possible Sources

- Exterior mirror motor mounting screws loose
- Exterior mirror glass loose

## T1 CHECK FOR THE EXTERIOR MIRROR MOUNTINGS

- Verify that there are no loose or damaged components.

### Was mirror mounting found loose?

<b>Yes</b>	<p>PRESS the center of the exterior mirror glass up, down, left and right to make sure the exterior mirror glass is seated correctly. If the exterior mirror glass is still loose, REMOVE the exterior mirror glass. INSPECT the exterior mirror backing plate for damage. INSPECT the exterior mirror motor mounting screws and TIGHTEN if necessary. If the exterior mirror backing plate is damaged, INSTALL a new exterior mirror glass.</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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**PINPOINT TEST V : THE RH (RIGHT-HAND) AND/OR LH (LEFT-HAND) POWER TELESCOPING MIRROR IS INOPERATIVE/DOES NOT OPERATE CORRECTLY - FOR VEHICLE WITH DDM / PDM**

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) B15F6:11	Driver Telescoping Mirror Motor: Circuit Short To Ground	This continuous and on-demand DTC (diagnostic trouble code) sets if the DDM (driver door module) detects a higher than expected current draw when voltage is applied to the LH (left-hand) exterior mirror telescoping circuit.
DDM (driver door module) B15F6:15	Driver Telescoping 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 LH (left-hand) exterior mirror telescoping circuit.
PDM (passenger door module) B15F7:11	Passenger Telescoping Mirror Motor: Circuit Short To Ground	This continuous and on-demand DTC (diagnostic trouble code) sets if the PDM (passenger door module) detects a higher than expected current draw when voltage is applied to the RH (right-hand) exterior mirror telescoping circuit.
PDM (passenger door module) B15F7:15	Passenger Telescoping Mirror Motor: Circuit Short To Battery Or Open	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 lower than expected current draw when voltage is applied to the RH (right-hand) exterior mirror telescoping circuit.

**Possible Sources**

- The power telescoping mirror motor lockout feature is active
- Binding or obstructed power telescoping mirror
- Power telescoping mirrors not synchronized
- Fuse
- Wiring, terminals or connectors