

MIRROR - AUTOMATIC DAY/NIGHT

1998 Pontiac Bonneville

1998 ACCESSORIES & EQUIPMENT
General Motors Corp. - Automatic Day/Night Mirrors

Buick; LeSabre
Oldsmobile; Eighty Eight, LSS & Regency
Pontiac; Bonneville

DESCRIPTION

Electrochromic day/night rearview mirror automatically changes reflectance to reduce glare from headlights. At night, as glare of headlights from behind increases, mirror will gradually become darker to absorb glare. During daylight or when gearshift lever is in Reverse, mirror will be clear and fully reflective. On some models, driver's side outside mirror will also be an electrochromic day/night mirror that is controlled by inside mirror. On some models, inside rearview mirrors also include a compass.

OPERATION

Day/night mirror(s) use a thin layer of electrochromic material between 2 plates of conductive glass. Two photocell sensors signal levels of light to a logic circuit. A forward-facing photocell sensor measures ambient light levels. A rear-facing photocell sensor measures glare from approaching vehicle headlights. When logic circuit senses more light from the headlight sensor than the ambient light sensor, the electrochromic drive circuit applies voltage to mirror(s). Approximately 1.15 volts is applied to mirror(s) when a large amount of glare is present, causing mirror(s) to darken. Voltage will be reduced to 0.01 volt when both photocells indicate the same light level.

When gearshift lever is shifted into Reverse, battery voltage is applied to mirror reset terminal. Mirror will gradually change to a clear state for better vision when backing up.

ADJUSTMENTS

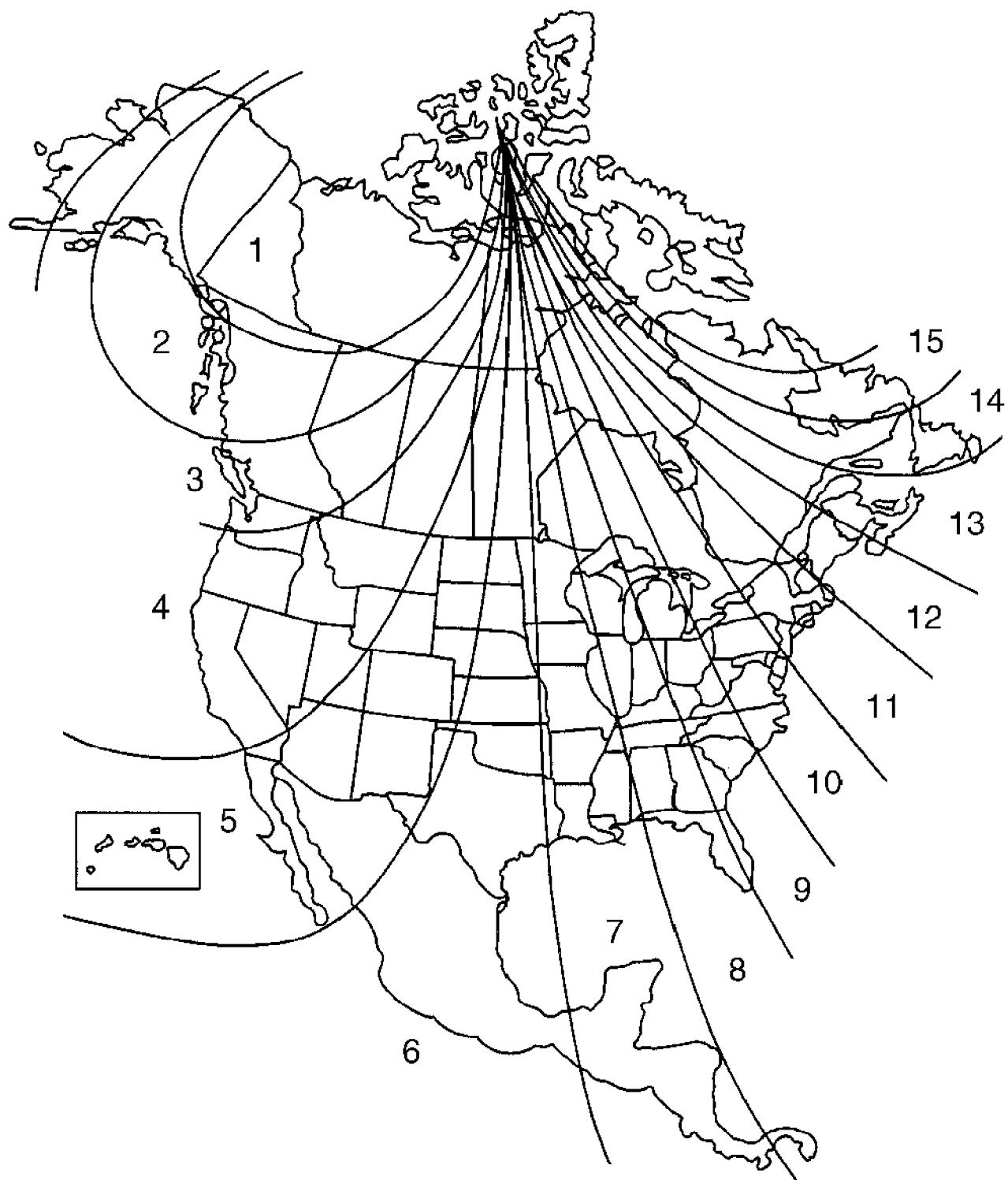
COMPASS

Variance

Using COMPASS button at bottom of mirror, press and hold until appropriate zone number appears in display. See Fig. 1. After button is released, display should show letter "C" and will need calibration. See CALIBRATION.

Calibration

If after 2 seconds, compass does not show a direction, check for possible magnetic interference (magnetic antenna mount, etc.). If the letter "C" appears in compass window, mirror needs calibration. Mirror can be calibrated in one of 2 ways, either by driving in circles at 5 MPH (8 km/h) or less until display reads a direction, or driving an every day routine.



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Fig. 1: Identifying Compass Variance Zones
Courtesy of General Motors Corp.

SYSTEM TESTS

NOTE: To identify connectors and wire colors, see WIRING DIAGRAMS.

AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK

1) Turn ignition switch to RUN position. Move gearshift lever into Park. Move mirror switch to MAXIMUM, ON or MIRROR position, if necessary. Cover ambient light sensor (windshield side of mirror) with a dark cloth. Shine light on headlight sensor (on mirror side). Mirror should gradually darken.

2) Move gearshift lever into Reverse. Mirror should gradually lighten to a clear state. Move gearshift lever into Park. Mirror should gradually darken. Remove cloth and light. Mirror should gradually lighten to a clear state. If vehicle is equipped with compass, turn on compass. Compass direction display should be on.

AUTOMATIC DAY/NIGHT MIRROR DOES NOT LIGHTEN OR DARKEN PROPERLY

1) Turn ignition off. Remove and check CHIME fuse 1D (15-amp) located in instrument panel fuse block. If fuse is okay, go to step 3). If fuse is not okay, go to next step.

2) Disconnect mirror connector. Replace CHIME fuse. Turn ignition on for 10 seconds, then turn ignition off. Check CHIME fuse. If fuse is okay, recheck system operation. Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK. If fuse is blown, repair short to ground in Pink wire between automatic day/night mirror and instrument panel fuse block.

3) Turn ignition switch to RUN position. Connect test light between automatic day/night mirror harness connector terminal No. 1 (Pink/Black wire) and ground. If test light illuminates, go to next step. If test light does not illuminate, repair open in Pink/Black or Pink wire between automatic day/night mirror and instrument panel fuse block.

4) Connect test light between automatic day/night mirror harness connector terminal No. 2 (Black or Black/White wire) and battery voltage. If test light illuminates, replace mirror. See REARVIEW MIRROR under REMOVAL & INSTALLATION. If test light does not illuminate, repair open in Black or Black/White wire between automatic day/night mirror and ground.

IMPROPER OPERATION IN REVERSE

1) Turn ignition off. Disconnect mirror connector. Remove and inspect SIG/BU/LPS BTSI/LCM fuse 1B (20-amp) located in instrument panel fuse block. If fuse is okay, go to step 3). If fuse is not okay, go to next step.

2) Replace SIG/BU/LPS BTSI/LCM fuse. Turn ignition on for 10 seconds, then turn ignition off. Check SIG/BU/LPS BTSI/LCM fuse. If fuse is okay, recheck system operation. Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK. If fuse is blown, repair short to ground in Pink wire between Park/Neutral Position (PNP) switch and instrument panel fuse block.

3) Check for poor connections at Park/Neutral Position (PNP) switch. Repair as necessary. Check operation of back-up lights. If back-up lights are functioning properly, go to next step. If back-up lights are not functioning properly, check for open in Pink wire between PNP switch and instrument panel fuse block. If Pink wire is okay, replace PNP switch.

4) Using DVOM, check resistance between PNP switch connector C1 terminal "F" (Light Green wire) and automatic day/night mirror terminal No. 3 (Light Green wire). If resistance is 5 ohms or less, go to next step. If resistance is not 5 ohms or less, repair open in

Light Green wire between PNP switch and automatic day/night mirror.
Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK.

5) Check resistance between automatic day/night mirror harness connector terminal No. 2 (Black or Black/White wire) and ground. If resistance is 5 ohms or less, replace mirror. See procedures in REARVIEW MIRROR under REMOVAL & INSTALLATION. Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK. If resistance is greater than 5 ohms, repair open in Black or Black/White wire between automatic day/night mirror and ground. Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK.

LEFT OUTSIDE MIRROR DOES NOT FUNCTION PROPERLY

1) Disconnect left outside mirror connector. Using DVOM, check resistance between left outside mirror harness connector terminal "D" (Gray wire) and automatic day/night mirror terminal No. 4 (Gray wire). If resistance is 5 ohms or less, go to next step. If resistance is greater than 5 ohms, repair open in Gray wire between left outside mirror and automatic day/night mirror. Perform procedures in AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK.

2) Check resistance between left outside mirror harness connector terminal "G" (Pink wire) and automatic day/night mirror terminal No. 5 (Pink wire). If resistance is 5 ohms or less, go to next step. If resistance is greater than 5 ohms, repair open in Pink wire between left outside mirror and automatic day/night mirror.
Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK.

3) Check resistance between automatic day/night mirror terminals No. 4 (Gray wire) and No. 5 (Pink wire). If resistance is 5 ohms or less, replace left outside mirror. See POWER MIRRORS article. Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK. If resistance is greater than 5 ohms, repair short between Gray and Pink wires. Perform AUTOMATIC DAY/NIGHT MIRROR SYSTEM CHECK.

REMOVAL & INSTALLATION

* PLEASE READ THIS FIRST *

CAUTION: Electrochromic material may irritate eyes and skin. In case of eye contact, rinse thoroughly with water. In case of skin contact, wash thoroughly with soap and water. If material is ingested, consult a physician or poison control center immediately.

NOTE: Electrochromic mirror cannot be repaired, and must be replaced as an assembly. DO NOT use ammonia-based cleansers on electrochromic day/night mirrors. Spraying cleansers directly on mirrors is not recommended.

NOTE: For removal and installation procedure for outside mirror assemblies, see POWER MIRRORS article.

REARVIEW MIRROR

NOTE: It is not necessary to use tools or other objects to pry mirror mount or mirror away from windshield. Use of tools may damage mirror, mirror mount or windshield.

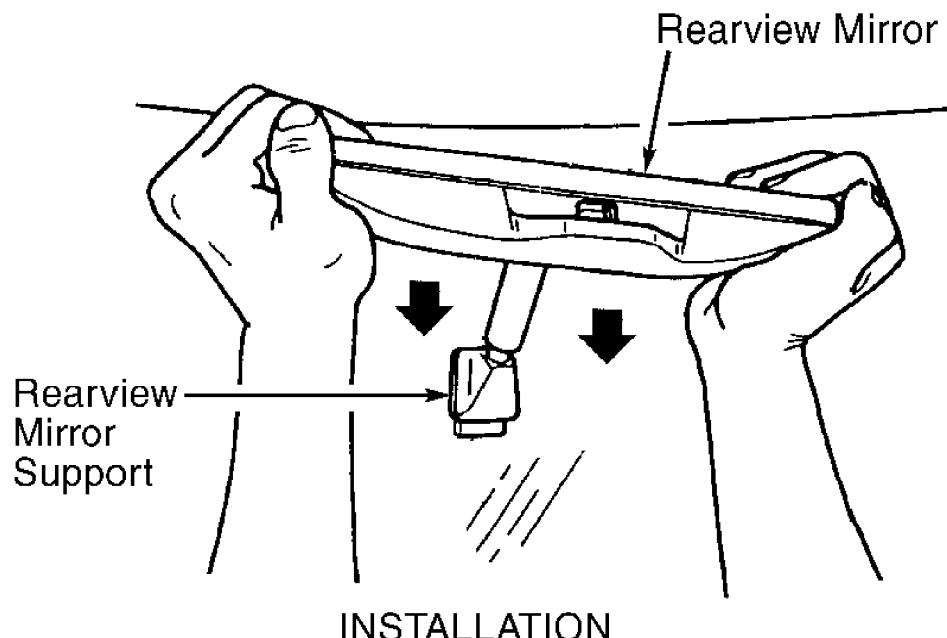
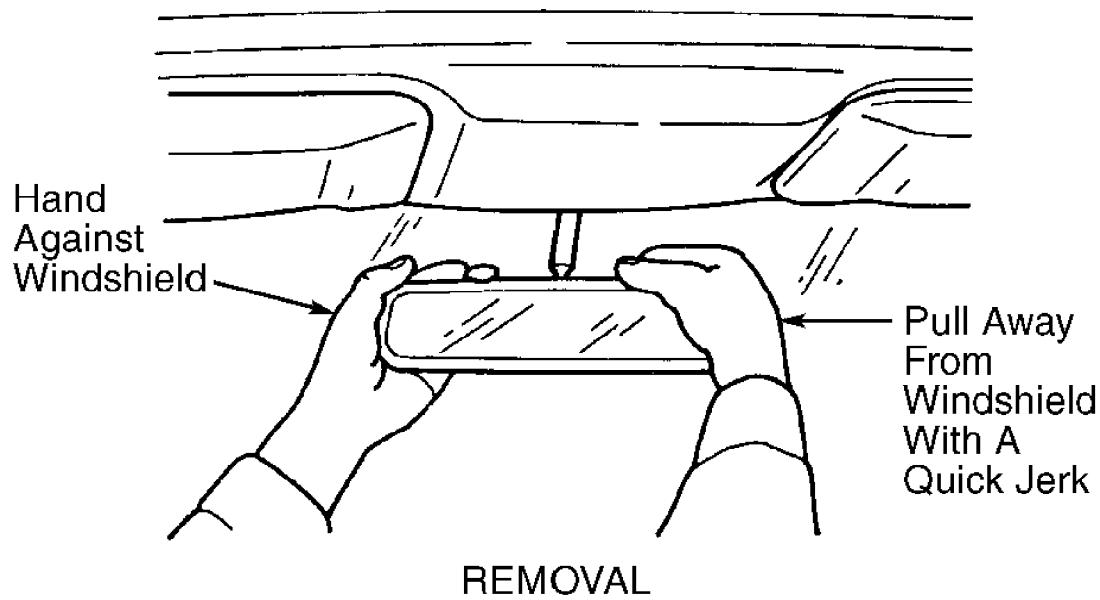
Removal

Gain access to mirror wiring harness inside of headliner. Disconnect mirror harness connector. Adjust mirror to full-down position. Grasp mirror with left hand between mirror and windshield. With right hand positioned at other end of mirror, pull mirror away

from support. See Fig. 1.

Installation

Center bottom of inside rearview mirror to top of mirror support. Slide mirror onto mirror support keeping mirror parallel to windshield. As mirror mount starts to grip, apply at least 20 lbs. of force to fully seat mirror onto mirror support. A click will be heard when mirror is fully seated. Connect mirror harness connector. Install harness and connector into headliner. See Fig. 2.



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Fig. 2: Removing & Installing Rearview Mirror
Courtesy of General Motors Corp.

WIRING DIAGRAMS

NOTE: See WIRING DIAGRAMS in POWER MIRRORS article.