Headlight doors are actuated by reversible electric motors mounted near each headlight door. Battery voltage is applied at all times to Headlight Doors Module (HDM). HDM also supplies output voltage to door motors.

Depending on mode, headlight switch position or daytime running lights module, if equipped, battery voltage is applied to HDM to activate HDM. See WIRING DIAGRAMS.

Based on voltage inputs from headlight switch, HDM directs voltage to headlight door motors to actuate headlight doors. To reverse motor direction, HDM reverses circuit polarity. HDM determines when doors are fully open, closed or jammed, and turns off power to motors to prevent overload.

### COMPONENT LOCATIONS

<table>
<thead>
<tr>
<th>Component</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headlight Door Module (HDM)</td>
<td>Below Right Headlight</td>
</tr>
<tr>
<td>Headlight Switch</td>
<td>Right Side Of Steering Column</td>
</tr>
<tr>
<td>Underhood Fuse Block</td>
<td>Above Battery</td>
</tr>
</tbody>
</table>

### ADJUSTMENTS

**HEADLIGHT DOORS**

1. Remove both headlight opening doors. See HEADLIGHT DOOR.
2. If horizontal adjustment is necessary, loosen headlight intermediate bracket-to-headlight assembly retaining screws. See Fig. 1.
3. Position headlight intermediate bracket as required and retighten retaining screw to 17 INCH lbs. (1.9 N.m).
4. If vertical adjustment is necessary, tighten vertical adjusting screws to lower, or loosen screws to raise headlight door. See Fig. 1.
5. To adjust headlight opening door stop position, tighten or loosen door stop screw as necessary.
6. To install headlight opening door, reverse removal procedure. Inspect fit of headlight opening door to hood, fender and front fascia. If fit is unsatisfactory, repeat steps 2 to 5.

7. If fit is satisfactory, install bezel. To complete bezel installation, reverse removal procedure.

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**TROUBLE SHOOTING**

**PRELIMINARY INSPECTION**

1. Check headlight door fuses HDLP MOT RH fuse No. 3 (10-amp) and HDLP MOT LH fuse No. 4 (10-amp) located in underhood electrical center. Check HDLP circuit breaker No. 54 (20-amp) located in instrument panel fuse block.
2. Check for poor contact at headlight door motor connectors and ground contacts. Check for proper installation of aftermarket electronic equipment which may affect other systems.

3. Check for broken or partially broken wire inside insulation which would cause system malfunction, but check good in continuity/voltage check.

4. Check door linkage for mechanical binding before performing electrical tests, as high torque load may cause headlight door motors to stop operating before reaching end of travel. If problem is not found, perform lighting system diagnostic system check. See **LIGHTING SYSTEMS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.

**SELF-DIAGNOSTIC SYSTEM**

**LIGHTING SYSTEMS DIAGNOSTIC SYSTEM CHECK**

1. Connect scan tool to Data Link Connector (DLC) located under left side of instrument panel. If scan tool powers up, go to next step. If scan tool does not power up, go to TEST A: SCAN TOOL DOES NOT POWER UP under SYSTEM TESTS in BODY CONTROL MODULES - CORVETTE article.

2. Turn ignition on. Attempt to communicate with Body Control Module (BCM) and Powertrain Control Module (PCM). If scan tool communicates with BCM and PCM, go to next step. If scan tool does not communicate with BCM and PCM, go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES - CORVETTE article.

3. Display BCM and PCM DTCs on scan tool. If any DTCs are set, go to next step. If no DTCs are set and headlight doors are inoperative, go to **HEADLIGHT DOORS INOPERATIVE** under SYSTEM TESTS.

4. Using scan tool, check for any DTCs that begin with "U" (communication DTCs) stored in BCM. If no communication DTCs exist in BCM or PCM, go to next step. If any communication DTCs exists, go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES - CORVETTE article.

5. If scan tool displays DTC B0605, go to , go to DTC B0605: BCM INTERNAL MEMORY MALFUNCTION under DIAGNOSTIC TESTS in BODY CONTROL MODULES - CORVETTE article. If scan tool does not display DTC B0605, go to next step.

6. If scan tool displays DTC P0562 or P0563, perform appropriate test. See GENERATORS & REGULATORS - CORVETTE article in STARTING & CHARGING SYSTEM. If scan tool does not display DTC P0562 or P0563, go to appropriate DTC diagnostic and repair procedure for appropriate system that DTC is set in. See BODY CONTROL MODULES - CORVETTE article.
SYSTEM TESTS

NOTE: Headlight doors may be opened and closed manually by rotating knob on headlight door motor.

HEADLIGHT DOORS INOPERATIVE

1. If lighting diagnostic system check has been performed, go to next step. If lighting diagnostic system check has not been performed, go to LIGHTING SYSTEMS DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM. After performing lighting diagnostic system check, go to next step.

2. Turn headlights on and off. If headlight doors open and close, problem may be intermittent. See INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If headlight doors do not open and close, go to next step.

3. If only one headlight door is inoperative, go to step 9. If both headlight doors are inoperative, go to next step.

4. If both headlight doors remain closed at all times, go to next step. If both headlight doors do not remain closed at all times, go to step 7.

5. Access Headlight Door Control Module (HDM) and disconnect connector C1 and C2. Go to HEADLIGHT DOOR CONTROL MODULE under REMOVAL & INSTALLATION. See Fig. 2. Turn headlights on. Connect test light between ground and HDM connector C1 terminal "A" (White wire). See Fig. 3. If test light illuminates, go to next step. If test light does not illuminate, go to step 14.

6. Connect test light between HDM connector C1 terminals "A" (White wire) and "D" (Black wire). If test light illuminates, go to step 11. If test light does not illuminate, go to step 14.

7. Turn headlights off. Access Headlight Door Control Module (HDM) and disconnect connector C1. Go to HEADLIGHT DOOR CONTROL MODULE under REMOVAL & INSTALLATION. See Fig. 2. Connect test light between ground and HDM connector C1 terminal "C" (Dark Green wire). See Fig. 3. If test light illuminates, go to next step. If test light does not illuminate, go to step 11.

8. Locate and disconnect 23-pin connector C209. C209 is located on left side of steering column, attached to lower instrument panel bar. Connect test light between ground and C209 connector terminal "T" (Dark Green wire) on side of connector going to steering column. See Fig. 4. If test light illuminates, go to step 12. If test light does not illuminate, go to step 15.

9. Check for poor connections at HDM connector C1 terminals "B" (Orange wire), "D" (Black wire) and "E" (Orange wire). See Fig. 3. Repair as necessary. After repairs, go to step 19. If connections are okay, go to next step.
10. Check for poor connections at suspect headlight door assembly. Repair as necessary. After repairs, go to step 19. If connections are okay, go to step 16.

11. Check for poor connections at HDM. Repair as necessary. After repairs, go to step 19. If connections are okay, go to step 17.

12. Check for poor connections at connector C209 terminals. Repair as necessary. After repairs, go to step 19. If connections are okay, go to step 18.

13. Repair poor connection or open in White wire between HDM and ACL HDLP relay No. 44 located in instrument panel fuse block. White wire also runs through underhood fuse block at connector C2 terminal F4 and connector C3 terminal A4. See Fig. 5 and Fig. 6. After repairs, go to step 19.

14. Repair poor connection or open in Black wire between HDM connector C1 terminal "D" and ground connection located on top of right frame rail behind right headlight assembly. After repairs, go to step 19.

15. Repair short to voltage in Dark Green wire between HDM connector C1 terminal "C" and connector C209 terminal "T". After repairs, go to step 19.

16. Replace suspect headlight door assembly. See HEADLIGHT ASSEMBLY under REMOVAL & INSTALLATION. After repairs, go to step 19.

17. Replace HDM. See HEADLIGHT DOOR CONTROL MODULE under REMOVAL & INSTALLATION. After repairs, go to step 19.

18. Replace multifunction switch. See MULTIFUNCTION SWITCH under REMOVAL & INSTALLATION in STEERING COLUMN SWITCHES - CORVETTE article. After repairs, go to next step.

19. Recheck headlight operation to verify repairs. If headlight doors operate properly, repair is complete. If headlight doors do not operate properly, go to step 2.
Fig. 2: Locating Headlight Door Control Module
Courtesy of GENERAL MOTORS CORP.
Fig. 3: Identifying Headlight Doors Control Module Connector Terminals
Courtesy of GENERAL MOTORS CORP.
Fig. 4: Identifying Connector C209 Terminals
Courtesy of GENERAL MOTORS CORP.
Fig. 5: Identifying Underhood Fuse Block Connectors
Courtesy of GENERAL MOTORS CORP.
REMOVAL & INSTALLATION

WARNING: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See COMPUTER RELEARN PROCEDURES article in GENERAL INFORMATION before disconnecting battery.

NOTE: Headlight doors may be opened and closed manually by rotating knob on headlight door motor.

HEADLIGHT CAPSULE (LENS)

Removal & Installation

1. Open hood. Disconnect negative battery cable. Remove headlight manual headlight control knob cover. Disconnect headlight assembly harness connector. Turn manual headlight control knob counterclockwise to raise headlight. Place masking tape around edges of
fender and hood to prevent damage.

2. Remove screws for headlight bezel. Pull rear sides of bezel out slightly, then begin to raise rear sides and pull bezel away from headlight opening door. Pull bezel to release bezel tab from retaining clip on underside of headlight door.


### HEADLIGHT DOOR

#### Removal & Installation

1. Open hood. Disconnect negative battery cable. Remove 2 screws at rear of headlight door. Remove headlight manual headlight control knob cover. Disconnect headlight assembly harness connector. Turn manual headlight control knob counterclockwise to raise headlight. Place masking tape around edges of fender and hood to eliminate damage.

2. Remove screws for headlight bezel. Pull rear sides of bezel out slightly, then begin to raise rear sides and pull bezel away from headlight opening door. Pull bezel to release bezel tab from retaining clip on underside of headlight door.

3. Remove 2 screws holding sides of headlight door to headlight assembly. Remove headlight door. To install, reverse removal procedure. Torque headlight door screws to 18 INCH lbs. (2 N.m).

### HEADLIGHT ASSEMBLY

#### Removal


2. Remove screws for headlight bezel. Pull rear sides of bezel out slightly, then begin to raise rear sides and pull bezel away from headlight opening door. Pull bezel to release bezel tab from retaining clip on underside of headlight door. Place masking tape around edges of fender and hood to eliminate damage.

3. Raise and support vehicle. Remove front fascia lower close out panel to wheelwell panel bolts. Remove valance panel. Remove front fascia lower close out panel to fascia bolts and remove close out panel.

4. Remove front fascia to energy absorber and front fascia to skid bar bolts. Reposition bottom of fascia outward and up. Slide brake cooling duct rearward off fascia opening. Remove brake caliper cooling duct from wheelhouse panel. Rotate duct and align locking tabs with
slots in wheelhouse panel and pull duct forward to remove from wheelwell panel.

5. On right headlight, disconnect Headlight Door Control Module (HDM) harness connectors. On both headlights, support headlight assembly. Remove 3 headlight bracket-to-headlight stud plate nuts. Remove 2 headlight bracket-to-frame rail bolts. Carefully remove headlight assembly from vehicle. See Fig. 7.

Installation

HEADLIGHT DOOR ACTUATOR MOTOR

Removal & Installation

1. Remove appropriate headlight assembly. See HEADLIGHT ASSEMBLY. Disconnect headlight bulb harness connector. Mark linkage-to-motor placement for installation reference. Remove nut securing headlight assembly pivot arm to headlight motor/actuator. Remove 3 motor-to-headlight assembly bolts. Remove headlight door actuator motor. See Fig. 8.

2. To install, reverse removal procedure. Tighten headlight motor-to-headlight assembly bolts to 62 INCH lbs. (7 N.m). Tighten headlight assembly pivot arm nut to 53 INCH lbs. (6 N.m).
Removal & Installation

1. Headlight Door Control Module (HDM) is located behind right headlight assembly. See Fig. 2. Open hood. Disconnect negative battery cable. Remove right headlight manual headlight control knob cover. Disconnect right headlight assembly harness connector. Turn right manual headlight control knob counterclockwise to raise headlight.
2. Raise and support vehicle. Remove front fascia lower close out panel to wheelwell panel bolts. Remove valance panel. Remove front fascia lower close out panel to fascia bolts and remove close out panel.

3. Remove front fascia to energy absorber and front fascia to skid bar bolts. Reposition bottom of fascia outward and up. Slide brake cooling duct rearward off fascia opening. Remove brake caliper cooling duct from wheelhouse panel. Rotate duct and align locking tabs with slots in wheelhouse panel and pull duct forward to remove from wheel well panel.


WIRING DIAGRAMS
Fig. 9: Headlight Door System Wiring Diagram (Corvette)