2001 ACCESSORIES & EQUIPMENT

Power Mirrors - Corvette

DESCRIPTION

Power/heated mirrors are standard on all vehicles. One mirror control switch adjusts both left (driver's side) and right (passenger's side) mirrors. Mirror control switch is part of driver's door switch. Press left side of mirror select switch for driver's mirror or press right side of switch for passenger's mirror. Press arrows on switch pad to adjust mirror. Vehicle is equipped with heated and memory mirrors.

Each power mirror assembly contains 2 reversible motors: an up/down motor and a left/right motor. Mirror control switch reverses polarity of motor circuit to change direction of mirror movement. Each motor contains a self-resetting circuit breaker, which opens when mirror reaches its mechanical limit of travel. Each power mirror assembly contains potentiometers that are used to determine mirror position.

Heated mirrors automatically turn on when rear window defogger is turned on. Defogger is turned on by pressing rear defogger button on A/C-heater control panel. Heated mirrors and rear window defogger will automatically turn off after 15 minutes. If additional defogging is required, press rear defogger button again.

Vehicle may also be equipped with automatic day-night mirror system. Inside rearview mirror and driver's outside mirror may be equipped with ability to change reflective properties to reduce glare of headlight behind your vehicle. Vehicle may be equipped with inside rear view mirror automatic day/night feature, but not be equipped with driver's outside automatic day/night mirror.

OPERATION

MEMORY MIRRORS

Memory buttons allow for recall of comfort control temperature, fan speed and mode settings, radio presets, tone, volume, playback mode, last displayed station, compact disc position and tape direction as well as seats, mirrors, and steering column. Door modules recall mirror positions. Door modules receive mirror position signals from mirror horizontal and vertical position sensors. These signals are used by door modules during memory recall to determine horizontal and vertical positions of mirrors. Door modules command memory mirror settings based on voltage level received from horizontal and vertical position sensors. When either memory switch is pressed, a ground is supplied through Diver Door Module (DDM), pulling memory switch low. When DDM detects low voltage on a memory input, it will activate appropriate memory function

for left mirror, which also sends messages on serial data line to other systems responsible for memory recall functions (PDM, radio, seats, steering column). When DDM sends a memory recall message on serial data line, PDM will command right mirror to appropriate position.

To program memory functions, see **MEMORY MIRRORS** under PROGRAMMING.

POWER MIRRORS

Power mirror switch circuit provides input to Diver Door Module (DDM) when mirror switch is pressed. This input allows DDM to detect a mirror up, down, left or right request from mirror switch. DDM provides both power and ground to mirror switch. When DDM detects low voltage on mirror up or down input, DDM will command mirror verticality. If DDM detects low voltage on mirror left or right input, DDM will command mirror horizontally. If right mirror is selected, DDM will send a message on serial data line to Passenger Door Module (PDM) to operate right mirror in direction selected by mirror switch. Door modules provide both power and ground for mirror output control through vertical and horizontal mirror motor control circuits. Direction of mirror motor is determined by polarity of the voltage applied to mirror motor.

COMPONENT LOCATIONS

COMPONENT LOCATIONS

Component	Location
Door Control Module	Bottom Center Of Respective Door
Power Mirror Switch	In Driver's Door Trim Panel
Instrument Panel Electrical Center	Top Of Footwell, Behind Carpet

PROGRAMMING

MEMORY MIRRORS

To program memory system (seats, telescopic steering column, if equipped, and memory mirrors) for 3 separate drivers, move seat, telescopic steering column (if equipped), and sideview mirrors to desired position. Press and hold correct memory seat button for specific driver until a chime is heard. Repeat procedure for second driver. For third driver, move seat, telescopic steering column (if equipped), and sideview mirrors to desired position, then press and hold both memory buttons simultaneously until a chime is heard.

TROUBLE SHOOTING

PRELIMINARY INSPECTION

Check for broken or partially broken wire inside insulation, which could cause system malfunction, but prove good in a continuity/voltage check with system disconnected. These circuits may be intermittent or resistive when loaded, and if possible, should be checked by monitoring voltage drop with system operational (under load). Check power mirror system related fuses. Check and ensure grounds are clean and tight. See **WIRING DIAGRAMS** . Check for proper installation of aftermarket electronic equipment. Correct any obvious problems before continuing testing. If problem still exists, perform diagnostic system check. See **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.

SELF-DIAGNOSTIC SYSTEM

Instrument Panel Cluster (IPC) is equipped with a self-diagnostic system, which detects system Diagnostic Trouble Codes (DTCs) or abnormalities. When a malfunction occurs, IPC will store a DTC. See **DIAGNOSTIC TROUBLE CODES** table. Malfunctions are recorded as history/intermittent failures or as current failures. Current DTCs indicate IPC has detected a fault which is currently present. A history DTC indicates that BCM has previously detected a malfunction that is not currently present as it is either an intermittent condition or the system is not being currently operated.

To retrieve DTCs using scan tool, turn ignition switch to ON position. Select appropriate module on scan tool display to retrieve current and history DTCs. Record DTCs and proceed to appropriate DTC and follow diagnostic and repair procedures. To clear DTCs using scan tool, select CLEAR DTCs function on scan tool. Clear current and history DTCs. Operate vehicle and recheck for DTCs.

To retrieve DTCs using instrument cluster Driver's Information Center (DIC), see USING ON-BOARD DIAGNOSTICS under SELF-DIAGNOSTIC SYSTEM in ANALOG INSTRUMENT PANELS - CORVETTE article.

DOORS DIAGNOSTIC SYSTEM CHECK

1. Install scan tool. 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 establish communication with Diver Door Module (DDM) and Passenger Door Module (PDM). If communication with DDM and PDM is established, go to next step. If communication with DDM and PDM is not established, go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES - CORVETTE article.
3. Select display DTC function for DDM and PDM. If DTC are set, go to next step. If no

DTCs are set, go to **SYMPTOM TESTS** under SYSTEM TESTS.

4. If scan tool displays any DTCs that begin with "U", go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES - CORVETTE article. If scan tool does not display any DTCs that begin with "U", diagnose DTCs set for door modules. See **DIAGNOSTIC TROUBLE CODES** table.

DIAGNOSTIC TROUBLE CODE DEFINITIONS

DTC (1)	Description
B2222	Left Mirror Select Switch Fault
B2224	Right Mirror Select Switch Fault
B2226	Mirror Right Switch Fault
B2228	Mirror Left Switch Fault
B2232	Mirror Up Switch Fault
B2234	Mirror Down Switch Fault
B2262	Left Mirror Horizontal Position Sensor Fault
B2263	Right Mirror Horizontal Position Sensor Fault
B2264	Left Mirror Vertical Position Sensor Fault
B2265	Right Mirror Vertical Position Sensor Fault
B2272	Left Mirror Motor Fault
B2273	Right Mirror Motor Fault
B2286	Left Mirror Vertical Or Horizontal Position Sensor Supply Voltage Out Of Range
B2287	Right Mirror Vertical Or Horizontal Position Sensor Supply Voltage Out Of Range

(1) Codes listed in this table are only for testing covered in this article. For a complete list of codes, see BODY CONTROL MODULES - CORVETTE article.

DIAGNOSTIC TESTS

DTC B2222: LEFT MIRROR SELECT SWITCH FAULT, DTC B2224: RIGHT MIRROR SELECT SWITCH FAULT

Description

Driver door switch signal circuits provide inputs to Diver Door Module (DDM) when a mirror select switch is activated. These inputs allow DDM to detect a left or right mirror request. DDM

provides power and ground to mirror select switches. When mirror select switch is activated, ground is supplied through mirror select switch to signal circuit, which is pulled low. When DDM detects low voltage on signal circuit, it will command mirror in direction selected. DDM controls right mirror functions by sending mirror control messages to Passenger Door Module (PDM) on serial data line. DDM monitors both left and right mirror select switch signal circuits to determine how long a ground has been applied.

Code Enable Criteria

DTC will set when DDM detects a short to ground on a mirror select switch signal circuit for more than 20 seconds. DTC will clear when DDM no longer detects a short to ground on a mirror select switch signal circuit for more than 20 seconds.

Diagnostic Procedures

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Turn ignition on. Using scan tool, select DDM INPUTS data list and monitor suspect mirror select switch status. If scan tool displays INACTIVE, go to next step. If scan tool displays ACTIVE, go to step 4 .
3. Operate suspect mirror select switch. If status on scan tool changes, problem may be intermittent. To diagnose intermittent, go to INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If status on scan tool does not change, go to next step.
4. Turn ignition off. Disconnect driver's door switch. See **DRIVER'S DOOR SWITCH** under REMOVAL & INSTALLATION. Turn ignition on. Monitor suspect mirror select switch status on scan tool. If scan tool displays INACTIVE, go to step 7 . If scan tool displays ACTIVE, go to next step.
5. Check for short to ground in suspect mirror select signal circuit. See **DRIVER'S DOOR SWITCH CIRCUITS** table. Repair as necessary. After repairs, go to step 10 . If circuit is okay, go to next step.
6. Check for poor connections at DDM. Repair as necessary. After repairs, go to step 10 . If connections are okay, go to step 8 .
7. Check for poor connections at driver's door switch. Repair as necessary. After repairs, go to step 10 . If connections are okay, go to step 9 .
8. Replace DDM. See **DOOR MODULE** under REMOVAL & INSTALLATION. After repairs, go to step 10 .
9. Replace driver's door switch. After repairs, go to next step.

10. Use scan tool to clear DTCs. Operate vehicle within **CODE ENABLE CRITERIA** . If DTC resets, go to step 2 . If DTC does not reset, system is okay at this time.

Diagnostic Aids

An intermittent short to ground on a mirror select switch signal circuit, mirror select switch shorted to ground internally or is sticking or mirror select switch pressed for longer than 20 seconds will cause DTC to set. If DTC does not reset after code is cleared, then problem may be intermittent.

DRIVER'S DOOR SWITCH CIRCUITS

Function	Wire Color	(1) LCDM Terminal No.	(1) Driver's Door Switch Terminal No.
Mirror Select Left	Light green	1	1
Mirror Select Right	Light Blue/White	2	2
Mirror Select Indicator Control Left	Dark Blue	16	16
Mirror Select Indicator Control Right	Light Blue	23	23
Up	Yellow	6	6
Down	Light Green	5	5
Left	Light Blue	4	4
Right	White	3	3
Battery Voltage	Orange	22	22
Ground	Black	9	9
(1) See **Fig. 1** .			

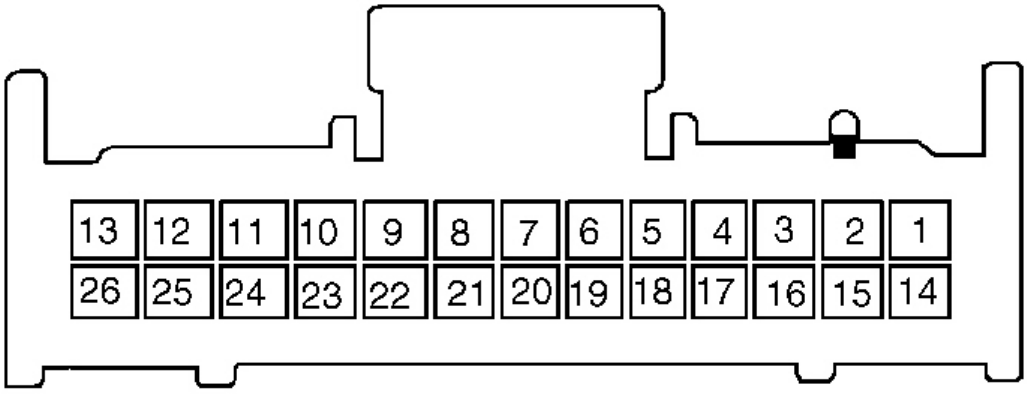

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Fig. 1: Identifying Door Control Module Connectors C1 & C4 & Driver's Door Switch Connector Terminals
Courtesy of GENERAL MOTORS CORP.

DTC B2226: MIRROR RIGHT SWITCH FAULT, DTC B2228: MIRROR LEFT SWITCH FAULT, DTC B2232: MIRROR UP SWITCH FAULT, DTC B2234: MIRROR DOWN SWITCH FAULT

Description

Driver door switch signal circuits provide inputs to Diver Door Module (DDM) when a mirror select switch is activated. These inputs allow DDM to detect a left or right mirror request. DDM provides power and ground to mirror select switches. When mirror select switch is activated, ground is supplied through mirror select switch to signal circuit, which is pulled low. When DDM detects low voltage on signal circuit, it will command mirror in direction selected. DDM controls right mirror functions by sending mirror control messages to Passenger Door Module (PDM) on serial data line. DDM monitors both left and right mirror select switch signal circuits to determine how long a ground has been applied.

Code Enable Criteria

DTC will set when DDM detects a short to ground on a mirror switch signal circuit for more than 20 seconds. DTC will clear when DDM no longer detects a short to ground on a mirror select switch signal circuit for more than 20 seconds.

Diagnostic Procedures

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Turn ignition on. Using scan tool, select DDM INPUTS data list and monitor suspect mirror select switch status. If scan tool displays INACTIVE, go to next step. If scan tool displays ACTIVE, go to step 4 .
3. Operate suspect mirror select switch. If status on scan tool changes, problem may be intermittent. To diagnose intermittent, go to INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If status on scan tool does not change, go to next step.
4. Turn ignition off. Disconnect driver's door switch. See **DRIVER'S DOOR SWITCH** under REMOVAL & INSTALLATION. Turn ignition on. Monitor suspect mirror select switch status on scan tool. If scan tool displays INACTIVE, go to step 7 . If scan tool displays ACTIVE, go to next step.
5. Check for short to ground in suspect mirror direction signal circuit. See **DRIVER'S DOOR SWITCH CIRCUITS** table. Repair as necessary. After repairs, go to step 10 . If circuit is okay, go to next step.
6. Check for poor connections at DDM. Repair as necessary. After repairs, go to step 10 . If connections are okay, go to step 8 .
7. Check for poor connections at driver's door switch. Repair as necessary. After repairs, go to step 10 . If connections are okay, go to step 9 .
8. Replace DDM. See **DOOR MODULE** under REMOVAL & INSTALLATION. After repairs, go to step 10 .
9. Replace driver's door switch. After repairs, go to next step.
10. Use scan tool to clear DTCs. Operate vehicle within **CODE ENABLE CRITERIA** . If DTC resets, go to step 2 . If DTC does not reset, system is okay at this time.

Diagnostic Aids

An intermittent short to ground in mirror right, left, up or down switch signal circuit, mirror switch shorted to ground internally or sticking or mirror switch pressed for longer than 20 seconds will cause DTC to set. If DTC does not reset after code is cleared, then problem may be intermittent.

DTC B2262: LEFT MIRROR HORIZONTAL POSITION SENSOR FAULT, DTC B2263: RIGHT MIRROR HORIZONTAL POSITION SENSOR FAULT, DTC B2264: LEFT MIRROR VERTICAL POSITION SENSOR FAULT, DTC B2265: RIGHT MIRROR VERTICAL POSITION SENSOR FAULT

Description

Diver Door Module (DDM) and Passenger Door Module (PDM) receive mirror position signals from mirror horizontal and vertical position sensors. These signals are used by door modules for memory recall functions of mirrors. Door modules command mirror memory settings based on voltage level received from position sensors. Horizontal and vertical position sensors are variable resistors. When memory setting is recalled, door modules command mirror motors in appropriate directions until stored position sensor voltage levels are achieved. DDM and PDM monitor signal circuits to determine if voltage level is out of range.

Code Enable Criteria

DTC will set when DDM or PDM detect a mirror position sensor signal voltage range less than 0.1 volt or more than 4.78 volts for more than 2 seconds.

Diagnostic Procedures

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Turn ignition on. Using scan tool, select suspect door module data display and monitor suspect position sensor data. If suspect position sensor voltage is 0.1-4.78 volts, problem may be intermittent. To diagnose intermittent, go to INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If suspect position sensor voltage is not 0.1-4.78 volts, go to next step.
3. Turn ignition off. Disconnect suspect power mirror. See **POWER MIRROR ASSEMBLY** under REMOVAL & INSTALLATION. Turn ignition on. Monitor suspect position sensor data. If suspect position sensor voltage is more than 4.78 volts, go to next step. If suspect position sensor voltage is less than 4.78 volts, go to step 5 .
4. Turn ignition off. Connect 3-amp fused jumper wire between power mirror connector suspect position sensor terminal and sensor ground terminal. See **POWER MIRROR CIRCUITS** table. Turn ignition on. Monitor suspect position sensor data. If suspect position sensor voltage is less than 0.1 volt, go to step 7 . If suspect position sensor voltage is more than 0.1 volt, go to step 6 .
5. Check for short to ground in suspect position sensor circuit between power mirror and door module. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 11 . If circuit is okay, go to step 8 .
6. Check for open or high resistance in suspect position sensor circuit between power mirror and door module. Repair as necessary. After repairs, go to step 11 . If circuit is okay, go to

step 8 .

7. Check for poor connections at suspect mirror. Repair as necessary. After repairs, go to step 11 . If connections are okay, go to step 9 .
8. Check for poor connections at suspect door module. Repair as necessary. After repairs, go to step 11 . If connections are okay, go to step 10 .
9. Replace suspect mirror assembly. After repairs, go to step 11 .
10. Replace suspect door module. See **DOOR MODULE** under REMOVAL & INSTALLATION. After repairs, go to next step.
11. Use scan tool to clear DTCs. Operate vehicle within **CODE ENABLE CRITERIA** . If DTC resets, go to step 2 . If DTC does not reset, system is okay at this time.

Diagnostic Aids

An intermittent malfunction may be caused by intermittent open or short to ground in suspect mirror signal circuit.

POWER MIRROR CIRCUITS

Function	Wire Color	(1) Mirror Terminal	(2) Door Control Module Terminal No.
Left Mirror			
Up	Yellow	(3) A	(3) 21
Down	Light Green	(3) C	(3) 22
Left	Light Blue	(3) H	(3) 20
Right	White	(3) F	(3) 19
Horizontal Position Sensor	Gray	(4) D	(3) 15
Vertical Position Sensor	Dark Green	(4) B	(3) 16
Sensor 5-Volt Reference	Gray	(4) A	(3) 5
Sensor Ground	Black/White	(4) C	(3) 6
Heater Voltage	Orange	(3) E	(5) B
Heater Ground	Black	(3) B	(5) F
Right Mirror			

Up	Brown/White	(3) A	(3) 21
Down	Purple/White	(3) C	(3) 22
Left	Gray	(3) H	(3) 20
Right	Red/White	(3) F	(3) 19
Horizontal Position Sensor	Light Blue/Black	(4) D	(3) 15
Vertical Position Sensor	Brown	(4) B	(3) 16
Sensor 5-Volt Reference	Gray	(4) A	(3) 5
Sensor Ground	Black/White	(4) C	(3) 6
Heater Voltage	Orange	(3) E	(5) B
Heater Ground	Black	(3) B	(5) F

(1) See **Fig. 2** or **Fig. 3** .

(2) See **Fig. 1** unless otherwise noted.

(3) Connector C1.

(4) Connector C2.

(5) 6-pin Black connector C3.

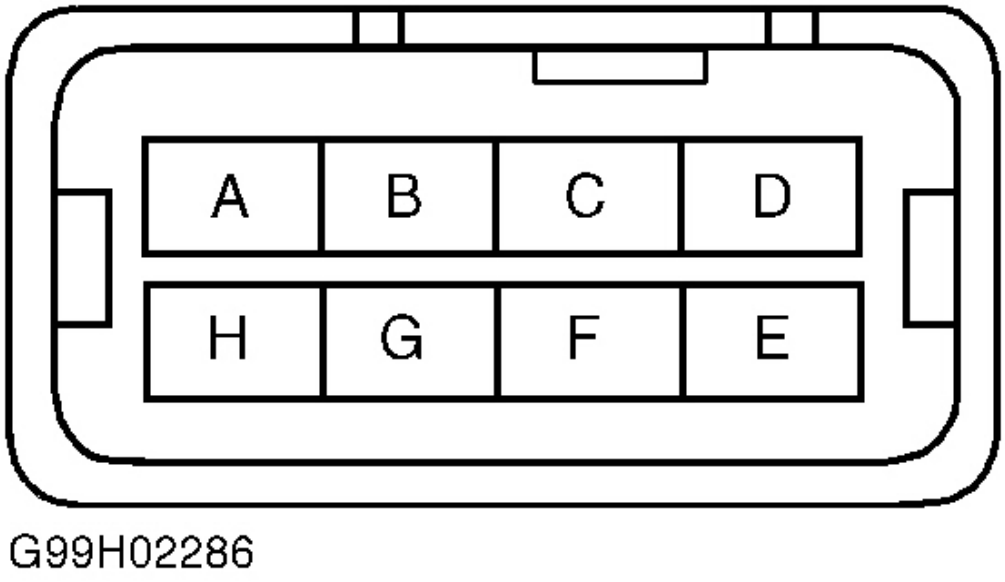

Fig. 2: Identifying Power Mirror Connector C1 Terminals
Courtesy of GENERAL MOTORS CORP.

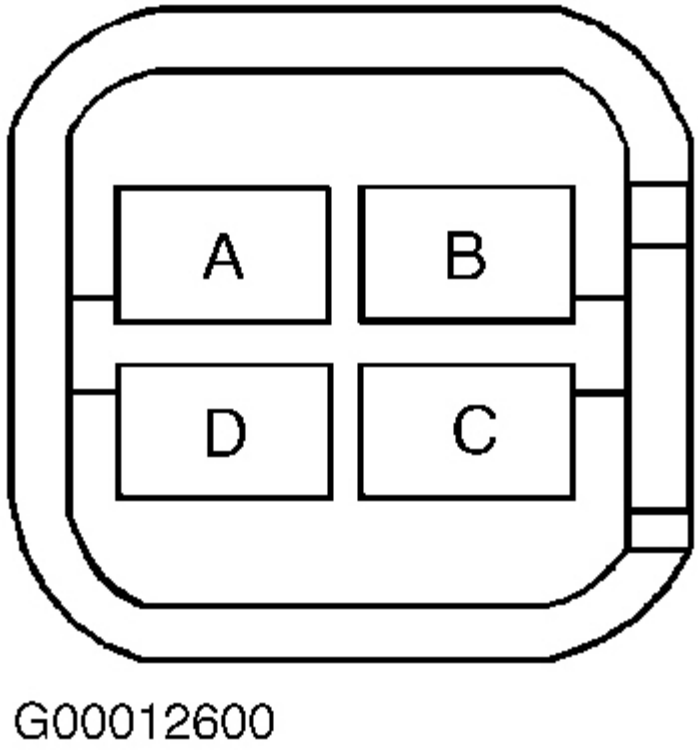

Fig. 3: Identifying Power Mirror Connector C2 Terminals
Courtesy of GENERAL MOTORS CORP.

DTC B2272: LEFT MIRROR MOTOR FAULT, DTC B2273: RIGHT MIRROR MOTOR FAULT

Description

Diver Door Module (DDM) and Passenger Door Module (PDM) each provide motor control output functions for respective mirrors. Mirror switch circuits in driver door switch provide inputs to DDM when mirror switch is pressed up, down, left or right. When DDM detects an active mirror command from mirror switch, DDM will command respective mirror motor in appropriate direction. DDM controls passenger mirror functions by sending mirror control messages to PDM on serial data line. PDM then commands passenger mirror. Each door module commands respective mirror motors by applying a ground or voltage to control circuit.

Code Enable Criteria

DTC will set when DDM or PDM detect a short to ground or voltage condition in mirror motor control circuit for 2 seconds.

Diagnostic Procedures

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Operate suspect mirror in up, down, left and right directions. If suspect mirror moves in all directions, problem may be intermittent. To diagnose intermittent, go to INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If suspect mirror does not move in all directions, go to next step.
3. Disconnect suspect mirror. Turn ignition on. Using scan tool, select appropriate door module data list and monitor suspect mirror motor output parameters. Operate suspect mirror switch in up, down, left and right directions. If all mirror motor output parameters change state, go to step 7 . If all mirror motor output parameters do not change state, go to next step.
4. If suspect mirror operates in left and right (horizontal) directions, go to next step. If suspect mirror does not operate in left and right (horizontal) directions, go to step 6 .
5. Check for short to ground or short to voltage in suspect mirror vertical control (up/down) circuit between mirror and door module. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 11 . If circuits are okay, go to step 8 .
6. Check for short to ground or short to voltage in suspect mirror horizontal control (left/right) circuit between mirror and door module. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 11 . If circuits are okay, go to step 8 .
7. Check for poor connections at suspect mirror. Repair as necessary. After repairs, go to step 11 . If connections are okay, go to step 9 .
8. Check for poor connections at suspect door module. Repair as necessary. After repairs, go to step 11 . If connections are okay, go to step 10 .
9. Replace suspect mirror assembly. After repairs, go to step 11 .
10. Replace suspect door module. See **DOOR MODULE** under REMOVAL & INSTALLATION. After repairs, go to next step.
11. Use scan tool to clear DTCs. Operate vehicle within **CODE ENABLE CRITERIA** . If DTC resets, go to step 2 . If DTC does not reset, system is okay at this time.

Diagnostic Aids

An intermittent short to ground or voltage in mirror motor control circuit or mirror motor shorted internally will cause DTC to set. If DTC does not reset after code is cleared, then problem may be intermittent.

DTC B2286: LEFT MIRROR VERTICAL OR HORIZONTAL POSITION SENSOR SUPPLY VOLTAGE OUT OF RANGE, DTC B2287: RIGHT MIRROR VERTICAL OR HORIZONTAL POSITION SENSOR SUPPLY VOLTAGE OUT OF RANGE

Description

Diver Door Module (DDM) and Passenger Door Module (PDM) receive mirror position signals from mirror horizontal and vertical position sensors. These signals are used by door modules for memory recall functions of mirrors. Door modules command mirror memory settings based on voltage level received from position sensors. Horizontal and vertical position sensors are variable resistors. When memory setting is recalled, door modules command mirror motors in appropriate directions until stored position sensor voltage levels are achieved. DDM and PDM monitor signal circuits to determine if voltage level is out of range.

Code Enable Criteria

DTC will set when DDM or PDM detects a mirror vertical or horizontal position sensor supply voltage range less than 4.0 volts or more than 5.2 volts for 2 seconds.

Diagnostic Procedures

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Turn ignition on. Using scan tool, select appropriate door control module input data list and monitor POSITION SENSOR REF parameter. If parameter is 4.0-5.2 volts, problem may be intermittent. To diagnose intermittent, go to INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If parameter is not 4.0-5.2 volts, go to next step.
3. Turn ignition off. Disconnect suspect power mirror. See **POWER MIRROR ASSEMBLY** under REMOVAL & INSTALLATION. Turn ignition on. Monitor POSITION SENSOR REF parameter. If parameter is 4.0-5.2 volts, go to step 9 . If parameter is not 4.0-5.2 volts, go to next step.
4. Turn ignition off. Reconnect suspect power mirror. Turn ignition on. Monitor POSITION SENSOR REF parameter. If parameter is less than 4.0 volts, go to step 6 . If parameter is more than 5.2 volts, go to next step.
5. If parameter is approximately battery voltage, go to step 7 . If parameter is not

approximately battery voltage, go to step 8 .

6. Check for short to ground in 5-volt reference circuit between suspect mirror and door module. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 13 . If circuit is okay, go to step 10 .
7. Check for short to voltage in 5-volt reference circuit between suspect mirror and door module. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 13 . If circuit is okay, go to step 10 .
8. Check for short to voltage in suspect sensor signal circuit between suspect mirror and door module. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 13 . If circuit is okay, go to step 10 .
9. Check for poor connections at suspect mirror. Repair as necessary. After repairs, go to step 13 . If connections are okay, go to step 11 .
10. Check for poor connections at suspect door module. Repair as necessary. After repairs, go to step 13 . If connections are okay, go to step 12 .
11. Replace suspect mirror. After repairs, go to step 13 .
12. Replace suspect door module. See **DOOR MODULE** under REMOVAL & INSTALLATION. After repairs, go to next step.
13. Use scan tool to clear DTCs. Operate vehicle within **CODE ENABLE CRITERIA** . If DTC resets, go to step 2 . If DTC does not reset, system is okay at this time.

Diagnostic Aids

An intermittent short to ground or voltage in mirror position sensor reference circuit, intermittent short to voltage in mirror position sensor signal circuit or mirror vertical or horizontal sensor shorted internally will cause DTC to set. If DTC does not reset after code is cleared, then problem may be intermittent.

SYSTEM TESTS

CAUTION: To prevent damage to terminals, Connector Test Adaptor Kit (J-35616-A) must be used whenever a diagnostic procedure requires checking or probing terminals. To locate and identify terminals, see WIRING DIAGRAMS .

NOTE: Before performing following tests, perform TROUBLE SHOOTING .

NOTE: For testing of automatic day/night mirrors, see appropriate AUTOMATIC DAY/NIGHT MIRRORS article.

NOTE: For testing of heated mirrors, see appropriate REAR WINDOW & MIRROR DEFOGGERS article.

SYMPTOM INDEX

Symptom	Perform Test
Power Mirrors Inoperative	A
Power Mirror Select Switch Indicator Malfunction	B

TEST A: POWER MIRRORS INOPERATIVE

NOTE: Power mirror switch is part of driver's door switch and must be serviced as one unit.

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Verify operation of power mirrors by selecting each mirror and operating in up, down, left and right positions. If mirrors operate properly, diagnose intermittent condition. See INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If mirrors do not operate properly, go to next step.
3. If both mirrors are inoperative or both mirrors have an inoperative direction, go to next step. If both mirrors are not inoperative or both mirrors do not have an inoperative direction, go to step 5 .
4. Turn ignition on. Using scan tool, select DDM INPUTS data list and monitor MIRROR RIGHT SWITCH, MIRROR LEFT SWITCH, MIRROR DOWN SWITCH and MIRROR UP SWITCH parameters. Operate left mirror in up, down, left and right directions. If scan tool displays INACTIVE for any parameters, go to step 8 . If scan tool does not display INACTIVE for any parameters, go to step 13 .
5. If driver's mirror is inoperative, go to next step. If driver's mirror operates properly, go to step 7 .
6. Turn ignition on. Using scan tool, select DDM INPUTS data list and monitor DRV MIRROR SWITCH parameter. Press left mirror select switch. If scan tool displays INACTIVE, go to step 9 . If scan tool displays ACTIVE, go to step 10 .
7. Turn ignition on. Using scan tool, select PDM INPUTS data list and monitor PSGR MIRROR SWITCH parameter. Press right mirror select switch. If scan tool displays INACTIVE, go to step 11 . If scan tool displays ACTIVE, go to step 12 .
8. Check for open in suspect mirror switch signal circuit between driver's door switch and

door module. See **DRIVER'S DOOR SWITCH CIRCUITS** table. Repair as necessary. After repairs, go to step 21 . If circuit is okay, go to step 14 .

9. Check for open in Light Green wire between driver's door switch connector terminal No. 1 and DDM connector C4 terminal No. 1. See **Fig. 1** . Repair as necessary. After repairs, go to step 21 . If circuit is okay, go to step 14 .
10. Check for open in suspect left mirror motor control circuit. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 21 . If circuit is okay, go to step 15 .
11. Check for open in Light Blue/White wire between driver's door switch connector terminal No. 2 and DDM connector C4 terminal No. 2. See **Fig. 1** . Repair as necessary. After repairs, go to step 21 . If circuit is okay, go to step 14 .
12. Check for open in suspect right mirror motor control circuit. See **POWER MIRROR CIRCUITS** table. Repair as necessary. After repairs, go to step 21 . If circuit is okay, go to step 16 .
13. Check for poor connections at suspect door module. Repair as necessary. After repairs, go to step 21 . If connections are okay, go to step 17 .
14. Check for poor connections at driver's door switch. Repair as necessary. After repairs, go to step 21 . If connections are okay, go to step 18 .
15. Check for poor connections at left power mirror. Repair as necessary. After repairs, go to step 21 . If connections are okay, go to step 19 .
16. Check for poor connections at right power mirror. Repair as necessary. After repairs, go to step 21 . If connections are okay, go to step 20 .
17. Replace suspect door module. See **DOOR MODULE** under REMOVAL & INSTALLATION. After repairs, go to step 21 .
18. Replace driver's door switch. See **DRIVER'S DOOR SWITCH** under REMOVAL & INSTALLATION. After repairs, go to step 21 .
19. Replace left power mirror. See **POWER MIRROR ASSEMBLY** under REMOVAL & INSTALLATION. After repairs, go to step 21 .
20. Replace right power mirror. See **POWER MIRROR ASSEMBLY** under REMOVAL & INSTALLATION. After repairs, go to next step.
21. Recheck system operation to verify the repair. If system operates properly, repair is complete. If system does not operate properly, go to step 2 .

TEST B: POWER MIRROR SELECT SWITCH INDICATOR MALFUNCTION

NOTE: Power mirror select switch is part of driver's door switch and must be serviced as one unit.

1. If doors diagnostic system check has been performed, go to next step. If doors diagnostic system check has not been performed, go to **DOORS DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM. After performing doors diagnostic system check, go to next step.
2. Turn ignition on and select left or right mirror on power mirror select switch. If switch indicator for selected mirror illuminates, diagnose intermittent condition. See INTERMITTENTS in BODY CONTROL MODULES - CORVETTE article. If switch indicator for selected mirror does not illuminate, go to next step.
3. If power mirror select switch indicator is always on, go to next step. If power mirror select switch indicator is not always on, go to step 5 .
4. Turn ignition off. Disconnect Diver Door Module (DDM) connectors. See **DOOR MODULE** under REMOVAL & INSTALLATION. Turn ignition on. Select LEFT DOOR CONTROL MODULE INPUTS data list and monitor DRV MIRROR SELECT LED and PSGR MIRROR SELECT LED parameters. If scan tool displays INACTIVE for both, go to step 7 . If scan tool does not display INACTIVE for both, go to step 11 .
5. Turn ignition on. Select LEFT DOOR CONTROL MODULE INPUTS data list and monitor DRV MIRROR SELECT LED and PSGR MIRROR SELECT LED parameters. If scan tool displays INACTIVE for both, go to step 11 . If scan tool does not display INACTIVE for both, go to next step.
6. If both power mirror select switch indicators are inoperative, go to step 8 . If both power mirror select switch indicators are not inoperative, go to step 9 .
7. Check for short to ground in suspect power mirror select switch indicator circuit. See **DRIVER'S DOOR SWITCH CIRCUITS** table. Repair as necessary. After repairs, go to step 15 . If circuit is okay, go to step 12 .
8. Check for open in Orange wire between driver's door switch connector terminal No. 22 and DDM connector C4 terminal No. 22. See **Fig. 1** . Repair as necessary. After repairs, go to step 15 . If circuit is okay, go to step 12 .
9. Check for open in suspect power mirror select switch indicator circuit. See **DRIVER'S DOOR SWITCH CIRCUITS** table. Repair as necessary. After repairs, go to step 15 . If circuit is okay, go to next step.
10. Check for open in suspect power mirror select switch signal circuit. See **DRIVER'S DOOR SWITCH CIRCUITS** table. Repair as necessary. After repairs, go to step 15 . If circuit is okay, go to step 12 .
11. Check for poor connections at DDM. Repair as necessary. After repairs, go to step 15 . If connections are okay, go to step 13 .
12. Check for poor connections at driver's door switch. Repair as necessary. After repairs, go to step 15 . If connections are okay, go to step 14 .

13. Replace DDM. After repairs, go to step 15 .
14. Replace driver's door switch. See **DRIVER'S DOOR SWITCH** under REMOVAL & INSTALLATION. After repairs, go to next step.
15. Recheck system operation to verify the repair. If system operates properly, repair is complete. If system does not operate properly, go to step 3 .

REMOVAL & INSTALLATION

CAUTION: 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.

CAUTION: Momentary actuation of power window switch can cause window to move directly to fully open position. When working inside door, leave ignition off whenever possible.

DOOR MODULE

Removal & Installation

CAUTION: Lower door panel retainers are 2-piece. Male fastener is attached to door panel and female retainer is attached to door. To avoid breaking door panel fasteners, pry between male fastener and female retainer.

1. Remove appropriate door panel to gain access to door module. See **DOOR PANEL** .
2. Remove door module mounting screws. See **Fig. 4** . Disconnect door module electrical connectors and remove door module from door. To install, reverse removal procedure. Tighten door module mounting screws to 27 INCH lbs. (3 N.m).

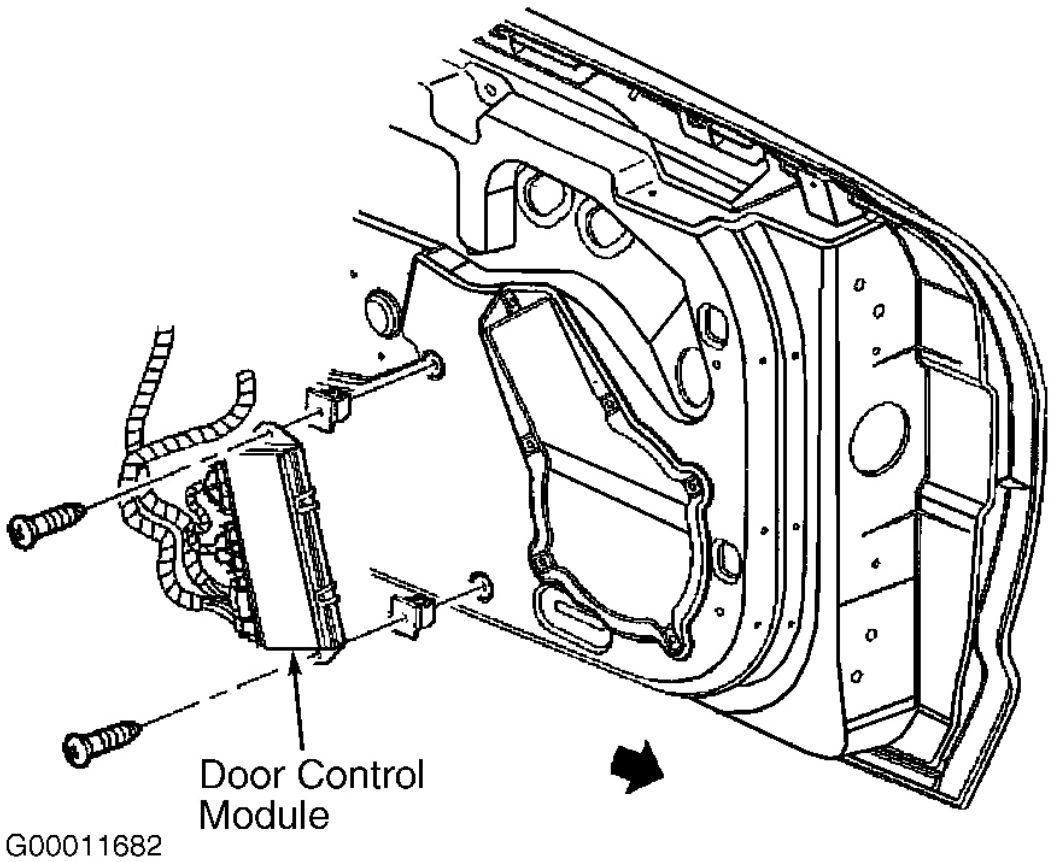

Fig. 4: Removing Door Control Module
Courtesy of GENERAL MOTORS CORP.

DOOR PANEL

Removal & Installation

1. Lower appropriate door window. Pull inside door handle open to access openings to bezel locking tabs. Insert a flat bladed screwdriver in lower opening and tip screwdriver up while pulling on bezel, releasing lower locking tab. Repeat for top of bezel. Grasp bezel firmly and pull to release rear locking tabs and remove bezel.
2. Remove pull handle plug for access to 2 door panel screws. Remove 2 screws from behind pull handle plug. Pry lower door panel fasteners loose from door. For better sight access to fasteners, start by first prying out fastener at rear of trim panel (approximately 2 in. up from trim panel seam). Lift door panel up and off upper retainers. Disconnect electrical connectors from door panel. To install, reverse removal procedure.

DRIVER'S DOOR SWITCH

Removal & Installation

Power mirror switches, power door lock switches and power window switches are replaced as an assembly. Disconnect negative battery cable. Pry up rear edge of door switch assembly. See **Fig. 5** . Slide switch assembly rearward. Disconnect electrical connector. To install, reverse removal procedure.

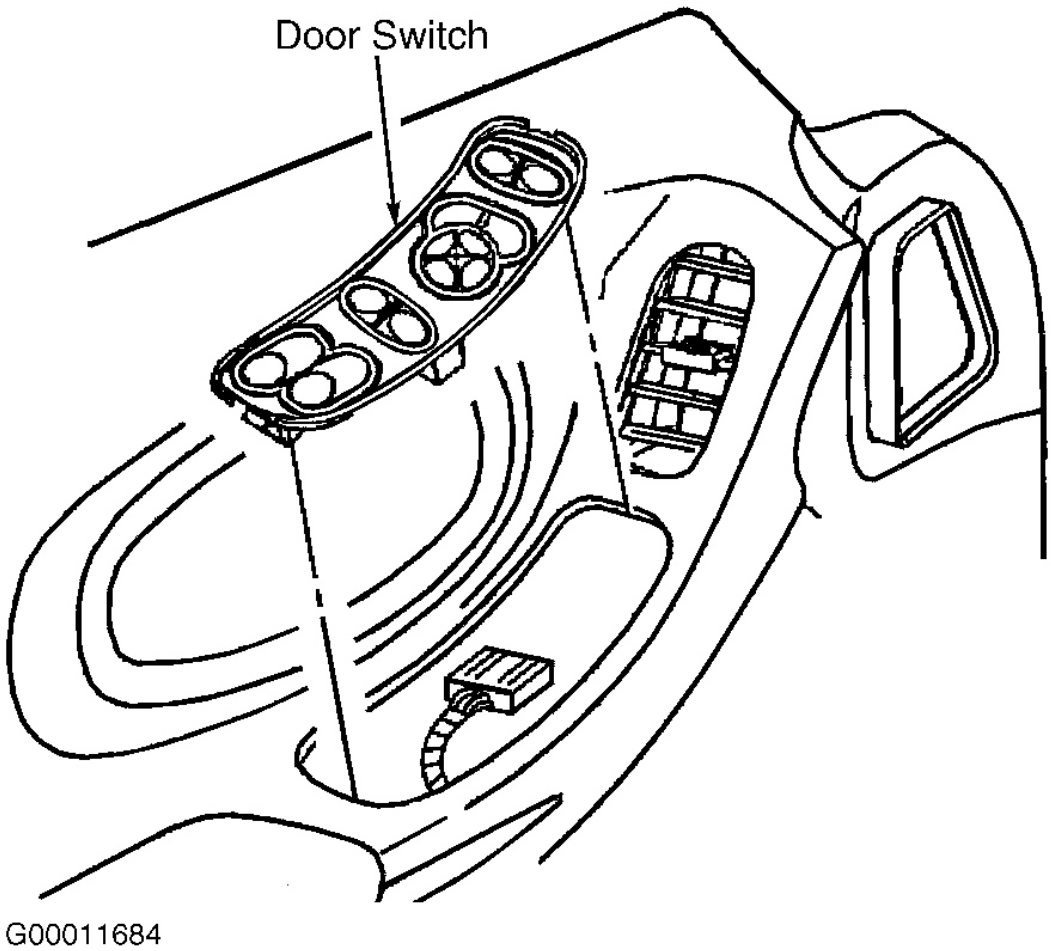

Fig. 5: Removing Driver's Door Switch
Courtesy of GENERAL MOTORS CORP.

INSIDE REARVIEW MIRROR

Removal & Installation

CAUTION: DO NOT pull rearward on mirror while removing or installing or damage to support and/or windshield will occur.

Disconnect electrical connector from rear of mirror. Rock mirror from side to side pushing upward firmly. An audible click will be heard when inside rearview mirror is releasing from support. Remove inside rearview mirror. To install, reverse removal procedure.

POWER MIRROR ASSEMBLY

Removal & Installation

CAUTION: Lower door panel retainers are 2-piece. Male fastener is attached to door panel and female retainer is attached to door. To avoid breaking door panel fasteners, pry between male fastener and female retainer.

1. Remove appropriate door panel to gain access to power mirror mounting and connectors. See **DOOR PANEL** .
2. Remove door speaker assembly. Remove mirror nut access plugs. Disconnect mirror wiring harness from retainers. Remove nuts from mirror studs. Remove mirror along with harness and gasket. If power mirror glass or power mirror motor are to be replaced, see **POWER MIRROR FACE/GLASS** or **POWER MIRROR MOTOR** .
3. To install, reverse removal procedure. Tighten door speaker screws to 22 INCH lbs. (2.5 N.m). Tighten power mirror nuts to 89 INCH lbs. (10 N.m).

POWER MIRROR FACE/GLASS

Removal & Installation

1. Tilt mirror face to allow access to grasp glass case firmly, and pull case from mirror body. Disconnect electrical connectors from case, if necessary. To install, place a little White lithium grease on motor pivot and on tip of jack screws. Align jack screws and motor pivot 90 degrees to mirror head. Reconnect electrical connectors. Align case to mirror motor.
2. Using palm of gloved hand, press firmly on center of glass until case snaps onto motor. If installing right mirror, rotate glass case down and press firmly on lower side snapping case to lower jack screw. If installing left mirror, rotate glass case up and press firmly on upper side snapping case to upper jack screw. Jackscrews will make a clicking noise when properly seated. For both mirrors, rotate glass case and press firmly on outer side snapping case to outer jack screw.

POWER MIRROR MOTOR

Removal & Installation

1. Remove appropriate door panel to gain access to power mirror mounting and connectors. See **DOOR PANEL** . Disconnect power mirror electrical connectors.
2. Remove power mirror glass. See **POWER MIRROR FACE/GLASS** . Remove screws attaching mirror motor to mirror housing. Pull mirror motor electrical harness through mirror housing to remove.
3. To instal, reverse removal procedure. Tighten mirror motor screws to 89 INCH lbs. (10 N.m).

WIRING DIAGRAMS

2001 Chevrolet Corvette

2001 ACCESSORIES & EQUIPMENT Power Mirrors - Corvette

Fig. 6: Power Memory Mirror System Wiring Diagram (Corvette)

2001 Chevrolet Corvette

2001 ACCESSORIES & EQUIPMENT Power Mirrors - Corvette

Fig. 7: Power Mirror System Wiring Diagram (Corvette)