

CHIME/BUZZER WARNING SYSTEMS

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GENERAL INFORMATION

INTRODUCTION

This group covers the chime warning system, which is standard factory-installed equipment on this model. The chime warning system provides an audible warning to the driver under the following conditions:

- A door is ajar above a critical speed [about 16 kilometers-per-hour (10 miles-per-hour) for the driver side front door, or about 5 kilometers-per-hour (3 miles-per-hour) for any other door]
- Check engine lamp illumination
- Check gauges lamp illumination
- Driver side seat belt is not fastened (belt webbing is on the retractor spool) with the ignition switch in the On position
- Head or park lamps are turned on with the ignition switch Off and the driver side front door open
- High speed warning - Gulf Coast Countries (export only)
- Key is in the ignition switch with the ignition switch Off and the driver side front door open
- Low fuel warning lamp illumination - less than about one-eighth tank of fuel remaining
- Rear lamp failure
- Transmission oil temperature is too high
- Turn signal remains on for about 1.6 kilometers (one mile) with no decrease in speed or throttle opening
- Washer level low lamp illumination.

Following are general descriptions of the major components in the chime warning system. Refer to 8W-44 - Interior Lighting or 8W-45 - Body Control Module in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams.

NOTE: This group covers both Left-Hand Drive (LHD) and Right-Hand Drive (RHD) versions of this model. Whenever required and feasible, the RHD

versions of affected vehicle components have been constructed as mirror-image of the LHD versions. While most of the illustrations used in this group represent only the LHD version, the diagnostic and service procedures outlined can generally be applied to either version. Exceptions to this rule have been clearly identified as LHD or RHD, if a special illustration or procedure is required.

DESCRIPTION AND OPERATION

BODY CONTROL MODULE

A Body Control Module (BCM) is used on this model to control and integrate many of the electronic functions and features on the vehicle. The BCM contains a central processing unit and interfaces with other modules in the vehicle on the Chrysler Collision Detection (CCD) data bus network.

The CCD data bus network allows the sharing of sensor information. This helps to reduce wire harness complexity, reduce internal controller hardware, and reduce component sensor current loads. At the same time, this system provides increased reliability, enhanced diagnostics, and allows the addition of many new feature capabilities.

One of the functions and features that the BCM supports is the chime warning system. The BCM contains a chime tone generator to perform the functions of the chime warning module. The BCM uses hard-wired inputs, internal programming, and CCD data bus chime request message inputs to decide when a chime tone is required.

The BCM is mounted under the driver side outboard end of the instrument panel, behind the instrument panel support armature and below the outboard switch pod. Refer to Group 8E - Instrument Panel Systems for the removal and installation procedures.

DESCRIPTION AND OPERATION (Continued)

This group only covers the diagnosis and service of the hard-wired inputs used by the BCM to determine that a chime tone should be generated. For diagnosis of the BCM, the CCD data bus, or the other electronic modules on the CCD data bus that send chime request messages to the BCM, refer to the proper Body Diagnostic Procedures manual. The BCM can only be serviced by an authorized electronic repair station. Refer to the latest Warranty Policies and Procedures manual for a current listing of authorized repair stations.

DRIVER DOOR AJAR SWITCH

The driver door ajar switch is mounted to the driver side front door latch pillar. The switch closes a path to ground for the Body Control Module (BCM) driver front door ajar switch circuit when the driver door is opened, and opens the ground path when the driver door is closed.

The driver door ajar switch cannot be repaired and, if faulty or damaged, it must be replaced. Refer to Group 8Q - Vehicle Theft/Security Systems for the service procedures.

DRIVER SEAT BELT SWITCH

The driver seat belt switch is integral to the driver seat belt tip-half retractor assembly. The switch is normally closed, providing a ground path to the Body Control Module (BCM) through the seat belt switch sense circuit. The switch monitors the amount of seat belt webbing wound onto the seat belt retractor spool. When the seat belt tip-half webbing is pulled out of the retractor far enough to engage the seat belt buckle-half, the switch opens the ground path.

The driver seat belt switch cannot be repaired and, if faulty or damaged, the entire driver seat belt tip-half and retractor unit must be replaced. Refer to Group 23 - Body for the service procedures.

KEY-IN IGNITION SWITCH

The key-in ignition switch is integral to the ignition switch, which is mounted on the right side of the steering column. It closes a path to ground for the Body Control Module (BCM) when the ignition key is inserted in the ignition lock cylinder. The key-in ignition switch opens the ground path when the key is removed from the ignition lock cylinder.

The key-in ignition switch cannot be repaired and, if faulty or damaged, the entire ignition switch must be replaced. Refer to Group 8D - Ignition Systems for the service procedures.

HEADLAMP SWITCH

The headlamp switch is integral to the outboard switch pod located in the instrument panel, outboard of the steering column. It provides a battery voltage

signal to the Body Control Module (BCM) park lamp relay output circuit when the park or head lamps are turned on. The headlamp switch opens the park lamp relay output circuit when the headlamp switch is turned off.

The headlamp switch cannot be repaired and, if faulty or damaged, the outboard switch pod unit must be replaced. Refer to Group 8E - Instrument Panel Systems for the service procedures.

DIAGNOSIS AND TESTING**DRIVER DOOR AJAR SWITCH**

For circuit descriptions and diagrams, refer to 8W-45 - Body Control Module in Group 8W - Wiring Diagrams.

WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Open the driver side front door and note whether the interior lamps light. They should light. If OK, see the diagnosis for the Key-In Ignition Switch or the Headlamp Switch in this group. If not OK, go to Step 2.

(2) Disconnect and isolate the battery negative cable. Unplug the driver door ajar switch from its wire harness connector. Check for continuity between the switch terminal and the switch body. There should be continuity with the switch plunger released, and no continuity with the switch plunger depressed. If OK, go to Step 3. If not OK, replace the faulty switch.

(3) Unplug the black 14-way wire harness connector from the Body Control Module (BCM). Check for continuity between the driver door ajar switch wire harness connector and a good ground. There should be no continuity. If OK, go to Step 4. If not OK, repair the short circuit as required.

(4) Check for continuity between the driver side front door ajar switch sense circuit cavities of the driver door ajar switch wire harness connector and the black 14-way BCM wire harness connector. There should be continuity. If OK, use a DRB scan tool and the proper Diagnostic Procedures manual to test the BCM. If not OK, repair the open circuit as required.

DIAGNOSIS AND TESTING (Continued)

DRIVER SEAT BELT SWITCH

For circuit descriptions and diagrams, refer to 8W-45 - Body Control Module in Group 8W - Wiring Diagrams.

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(1) Disconnect and isolate the battery negative cable. Unplug the driver seat belt switch wire harness connector from the driver seat belt retractor behind the B pillar trim. Check for continuity between the seat belt switch sense circuit and the ground circuit cavities of the seat belt retractor half of the driver seat belt switch wire harness connector. There should be continuity with the seat belt webbing retracted, and no continuity with the seat belt webbing extracted far enough to buckle the seat belt. If OK, go to Step 2. If not OK, replace the faulty seat belt tip-half and retractor assembly.

(2) Check for continuity between the ground circuit cavity in the body half of the driver seat belt switch wire harness connector and a good ground. There should be continuity. If OK, go to Step 3. If not OK, repair the circuit to ground as required.

(3) Unplug the black 14-way wire harness connector from the Body Control Module (BCM). Check for continuity between the seat belt switch sense circuit cavity in the body half of the driver seat belt switch wire harness connector and a good ground. There should be no continuity. If OK, go to Step 4. If not OK, repair the short circuit as required.

(4) Check for continuity between the seat belt switch sense circuit cavities in the body half of the driver seat belt switch wire harness connector and the 14-way BCM wire harness connector. There should be continuity. If OK, use a DRB scan tool and the proper Diagnostic Procedures manual to test the BCM. If not OK, repair the open circuit as required.

KEY-IN IGNITION SWITCH

For circuit descriptions and diagrams, refer to 8W-40 - Instrument Cluster or 8W-44 - Interior Lighting in Group 8W - Wiring Diagrams.

WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR

SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

(1) Disconnect and isolate the battery negative cable. Remove the steering column shrouds. Refer to Group 8D - Ignition Systems for the procedures. Unplug the key-in ignition switch wire harness connector from the ignition switch.

(2) Check for continuity between the key-in ignition switch sense and ground terminals of the key-in ignition switch. There should be continuity with the key in the ignition lock cylinder, and no continuity with the key removed from the ignition lock cylinder. If OK, go to Step 3. If not OK, replace the faulty ignition switch assembly.

(3) Check for continuity between the ground circuit cavity of the key-in ignition switch wire harness connector and a good ground. There should be continuity. If OK, go to Step 4. If not OK, repair the open circuit to ground as required.

(4) Unplug the black 24-way wire harness connector from the Body Control Module (BCM). Refer to Group 8E - Instrument Panel Systems for the procedures. Check for continuity between the key-in ignition switch sense circuit cavity of the key-in ignition switch wire harness connector and a good ground. There should be no continuity. If OK, go to Step 5. If not OK, repair the short circuit as required.

(5) Check for continuity between the key-in ignition switch sense circuit cavities of the key-in ignition switch wire harness connector and the black 24-way BCM wire harness connector. There should be continuity. If OK, use a DRB scan tool and the proper Diagnostic Procedures manual to test the BCM. If not OK, repair the open circuit as required.

HEADLAMP SWITCH

If the park lamps are inoperative, refer to Group 8L - Lamps for diagnosis. If the park lamps operate, but there is no chime warning issued with the driver side front door open, proceed as follows. For circuit descriptions and diagrams, refer to 8W-40 - Instrument Cluster or 8W-44 - Interior Lighting in Group 8W - Wiring Diagrams.

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DIAGNOSIS AND TESTING (Continued)

(1) Disconnect and isolate the battery negative cable. Remove the outboard switch pod from the instrument panel. Refer to Group 8E - Instrument Panel Systems for the procedures. Unplug the headlamp switch wire harness connector. Unplug the black 24-way wire harness connector from the Body Control Module (BCM). Check for continuity between the park lamp relay output circuit cavity of the headlamp switch wire harness connector and a good ground. There should be no continuity. If OK, go to Step 2. If not OK, repair the short circuit as required.

(2) Check for continuity between the park lamp relay output circuit cavities of the headlamp switch wire harness connector and the black 24-way BCM wire harness connector. There should be continuity. If OK, use a DRB scan tool and the proper Diagnostic Procedures manual to test the BCM. If not OK, repair the open circuit as required.

REMOVAL AND INSTALLATION

CHIME WARNING SYSTEM SWITCHES

Service procedures for the various hard-wired switches used in the chime warning system can be found in the appropriate group as follows:

- Driver door ajar switch - refer to Group 8Q - Vehicle Theft/Security Systems
- Driver seat belt switch - refer to Group 23 - Body
- Headlamp switch - refer to Group 8E - Instrument Panel Systems
- Key-in ignition switch - refer to Group 8D - Ignition Systems.