2001 ACCESSORIES & EQUIPMENT Remote Keyless Entry Systems - Corvette

#### 2001 ACCESSORIES & EQUIPMENT

# Remote Keyless Entry Systems - Corvette

# **DESCRIPTION**

Remote Keyless Entry (RKE) system is controlled by Remote Function Actuation (RFA) system. Transmitter allows remote control of various vehicle functions without physical contact with vehicle. RFA functions include lock and unlock of both doors, turning panic alarm on or off, arming or disarming alarm, opening rear compartment lid, turning on vehicle's parking lights (approach, courtesy) and activating memory features (with memory option only).

RFA system consists of a transmitter located in drivers key fob, a Remote Control Door Lock Receiver (RCDLR) with integral antenna is located in left rear quarter panel. See <u>Fig. 1</u>. The RFA system does not directly control system functions. When RCDLR receives a transmitter command, a message is sent through the serial data line to applicable system module.

RFA system should be used as a supplement to vehicle's conventionally operated lock/unlock system. RFA system could be disabled due to radio frequency interference or a low transmitter battery. Vehicle can always be accessed with a door key. RCDLR receives and transmits information to other vehicle systems to perform specific functions.

RFA is also used for Tire Pressure Monitoring (TPM). RCDLR receives signals from TPM sensors, then sends a message on serial data line to Instrument Panel Cluster (IPC). IPC then displays tire pressure information for each tire. For more information on TPM system, see ANALOG INSTRUMENT PANELS - CORVETTE article.

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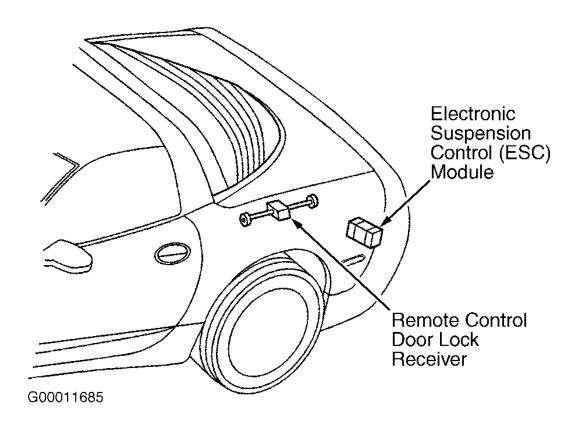


Fig. 1: Locating Remote Keyless Entry (RKE) System Components Courtesy of GENERAL MOTORS CORP.

# **OPERATION**

#### REMOTE KEYLESS ENTRY SYSTEM

#### **Door UNLOCK Button**

Momentarily press UNLOCK button to perform the following functions:

- Unlock driver's door only.
- Illuminate interior lights for 30 seconds or until a door is opened, when ambient light is low.
- Illuminate exterior lights for about 30 seconds or until a door is opened (when APPROACH LIGHTS ON is programmed).
- Disarm content theft deterrent system.
- Recall memory seat, memory mirror and telescopic steering column (if equipped) positions for that driver.

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- Recall temperature, fan speed, mode settings for comfort control for that driver.
- Recall radio presets for that driver.

Momentarily press UNLOCK button a second time (within 2 seconds of first press) to perform the following functions:

- Unlock remaining doors.
- Illuminate interior lights for 30 seconds or until a door is opened, when ambient light is low.
- Illuminate exterior lights for about 30 seconds or until a door is opened (when APPROACH LIGHTS ON is programmed).
- Disarm content theft deterrent system.

#### **Door LOCK Button**

Press LOCK button to perform the following functions:

- Lock all doors.
- Turn off interior lights.
- Flash park lights and chirp horn (when programmed).
- Arm content theft deterrent system.

#### Rear Compartment Lid Release Button

When transmitter rear compartment lid release button is pressed (with transmission in Park or Neutral and ignition turned off), rear compartment lid will open. Interior lights will not illuminate.

#### **PANIC Button**

When transmitter PANIC button is pressed, interior lights will illuminate, headlights will flash (when programmed) and horn will pulse for 30 seconds or until one of the following conditions is met:

- PANIC button is pressed again.
- Ignition is turned on using a valid key.
- Vehicle is unlocked with key.

#### TIRE PRESSURE MONITORING SYSTEM

For Tire Pressure Monitoring (TPM) system operation, see ANALOG INSTRUMENT PANELS

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- CORVETTE article.

# **COMPONENT LOCATIONS**

#### COMPONENT LOCATIONS

Component	Location
Body Control Module (BCM)	Behind Carpet In Right Footwell, Mounted
	Below Floor Board
Data Link Connector (DLC)	Behind Left Side Of Instrument Panel, Below
	Steering Column Gearshift Lever
Door Ajar Indicator Switch	Rear Of Door, Integral With Latch
Foglight/Rear Compartment Lid Release	In Instrument Panel, To Left Of Steering
Switch	Column
Ignition Switch	Left Side Of Instrument Panel, Between
	Radio & Steering Column
Instrument Panel Electrical Center	Behind Carpet In Right Footwell, Mounted
	To Floor Board
Right Rear Compartment Lid Lock Release	Right Side Of Rear Compartment, On Right
Solenoid	Compartment Latch
Star Connectors No. 1 & 2	In DLC Instrument Panel Harness
Underhood Electrical Center	Right Rear Corner Of Engine Compartment,
	Between Battery & Coolant Reservoir

# **PROGRAMMING**

#### REMOTE FUNCTION ACTUATOR SETTINGS

Personalized remote keyless entry/alarm functions are available through the Driver's Information Center (DIC) display functions. To enter programming mode, ensure ignition is turned on and transmission is in Park or Neutral. Press RESET button to clear any warning messages. Press OPTIONS button until desired option is indicated on DIC. To set individual functions within the options, see appropriate procedure. Press OPTIONS button to advance to next option. DIC will exit programming mode about 15 seconds after last feature has been personalized. To end programming before list is complete, press FUEL, GAGES or TRIP button.

#### Lock & Alarm

To change arming and locking functions of keyless entry system, press OPTIONS button on DIC until LOCK & ARM - LIGHTS ONLY is displayed. Press RESET button to scroll through the

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following displayed functions:

 LOCK & ARM - OFF - Vehicle will not give indication if vehicle is locked or unlocked and alarm is set or deactivated.

#### LOCK & ARM - HORN ONLY

Horn will chirp when vehicle is locked or unlocked and alarm is set or deactivated.

#### LOCK & ARM - LIGHTS ONLY

Lights will flash when vehicle is locked or unlocked and alarm is set or deactivated.

#### • LOCK & ARM - HORN & LIGHTS

Horn will chirp and lights will flash when vehicle is locked or unlocked and alarm is set or deactivated.

#### **Approach Lights**

To change lighting functions of keyless entry system, press OPTIONS button on DIC until APPROACH LIGHTS is displayed. Press RESET button until one of the following desired functions is displayed:

# • APPROACH LIGHTS ON

When vehicle is unlocked, fog lights, front turn signals, back-up lights and courtesy lights will come on for 30 seconds if ambient light is low.

#### APPROACH LIGHTS OFF

Function is off.

#### Auto Lock

To change locking functions of keyless entry system, press OPTIONS button on DIC until AUTO LOCK is displayed. Press RESET button until one of the following desired functions is displayed:

#### AUTO LOCK ON

On Manual Transmission (M/T) models, when vehicle reaches speed of 10 MPH (16 km/h)

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or greater, driver's and passenger's doors will automatically lock. On Automatic Transmission (A/T) models, when vehicle is shifted from PARK position, driver's and passenger's doors will automatically lock.

#### AUTO LOCK OFF

Function is off.

#### **Auto Unlock**

For this function to be available, AUTO LOCK option must be on. To change unlocking functions of keyless entry system, press OPTIONS button on DIC until AUTO UNLOCK is displayed. Press RESET button until one of the following desired functions is displayed:

# AUTO UNLOCK DRIVER

Driver's door will automatically unlock when ignition is turned off and key is removed from ignition switch.

#### AUTO UNLOCK BOTH

Driver's and passenger's doors will automatically unlock when ignition is turned off and key is removed from ignition switch.

### AUTO UNLOCK OFF

Function is off.

#### TRANSMITTER PROGRAMMING & SYNCHRONIZATION

Each transmitter has a unique vehicle access code that changes every 5 seconds. If a transmitter or receiver is replaced, each transmitter must be programmed to vehicle's receiver. Entering a specific button sequence on the Driver's Information Center (DIC), up to 3 transmitters can be programmed into receiver. After programming transmitters to vehicle, receiver will update this code every 5 seconds in order to match the code programmed in transmitter.

The transmitter may not communicate or may loose synchronization with the receiver if any of the following situations occur:

- Transmitter battery is removed.
- Vehicle battery is disconnected.

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- Transmitter and vehicle are have not communicated for 2 weeks or more.
- Receiver is disconnected.

Perform synchronizing procedure if transmitter does not communicate or is not synchronized with receiver. See **SYNCHRONIZING TRANSMITTERS**. If transmitter and/or receiver are replaced, perform programming procedure. See **PROGRAMMING TRANSMITTERS**.

# **Programming Transmitters**

Entering a specific button sequence on Driver Information Center (DIC) initiates Remote Function Actuation (RFA) programming. Pressing transmitter LOCK and UNLOCK button on each transmitter, allows programming for up to 3 transmitters. Instrument Panel Cluster (IPC) indicates when programming sequence is complete. Remote control door lock receiver memory retains current access codes if a programming sequence is interrupted or battery is disconnected. To program transmitters perform the following steps:

- 1. Turn ignition on. Turn radio off. Press Driver Information Center (DIC) RESET button to clear any Instrument Panel Cluster (IPC) warning messages. Press and release OPTIONS button on DIC to scroll through display options until IPC display is blank.
- 2. Press and hold RESET button for 3 seconds. Press OPTIONS button until FOB TRAINING message is displayed. Press RESET button once to begin programming sequence.
- 3. IPC will display HOLD LK + UNLK 1ST FOB. Simultaneously press and hold LOCK and UNLOCK buttons on first transmitter for 15 seconds. IPC will indicate FOB LEARNED when transmitter is programmed and prompt for next transmitter. Repeat this step for each additional transmitter, or press OPTIONS button to exit.

#### **Programming Cancellation**

Remote control door lock receiver will cancel programming sequence if one of the following conditions occur:

- Program mode is exited through DIC.
- Ignition is turned off.
- Three transmitters have been programmed.
- RFA system has been in program mode for more than 2 minutes & no transmitters have been programmed.

If programming mode is cancelled with less than 3 transmitter codes stored, receiver will only recognize the new codes stored. If programming mode is cancelled before any code is stored, all previous codes still remain valid.

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#### **Synchronizing Transmitters**

Move a programmed transmitter within range. Press transmitter LOCK and UNLOCK buttons simultaneously for 7 seconds. Vehicle horn will chirp once when transmitters are synchronized.

#### TIRE PRESSURE MONITOR SENSOR PROGRAMMING

**Programming Sensors** 

NOTE: Make sure the vehicle has been stationary for at least 2 minutes before attempting to program the TPM sensors.

- 1. Turn ignition on. Press Driver Information Center (DIC) RESET button to clear any Instrument Panel Cluster (IPC) warning messages. Press DIC OPTIONS button until IPC display is blank.
- 2. Press and hold DIC RESET button for 3 seconds. Press DIC OPTIONS button again until TIRE TRAINING message appears. Press DIC RESET button until IPC LEARN L FRONT TIRE message appears and begin programming sequence.

NOTE: TPM Sensor Programming Tool (J 41760) is a large magnet.

3. Install TPM Sensor Programming Tool (J 41760) over left front wheel valve stem. See <u>Fig.</u> <u>2</u>. When TPM sensor is programmed vehicle horn will sound. Proceed to next TPM sensor as directed by IPC messages. Sensor programming sequence is left front tire, right rear tire then left rear tire.

NOTE:

If a horn chirp does not sound after 15 seconds, remove and reinstall TPM sensor programming tool. This procedure may have to be attempted up to 3 times. If Remote Control Door Lock Receiver (RCDLR) still does not receive sensor ID being programmed, go to TIRE PRESSURE MONITORING SYSTEM DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM.

#### **Programming Cancellation**

Programming sequence will exit if one of the following conditions occur:

- Program Mode Is Exited Through DIC
- Ignition Is Turned Off

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- All 4 TPM Sensors Have Been Programmed
- TPM system Has Been In Program Mode For More Than 2 Minutes & No Sensors Have Been Programmed

If program mode is cancelled with less than 4 TPM sensors stored, remote control door lock receiver will only recognize previously programmed codes.

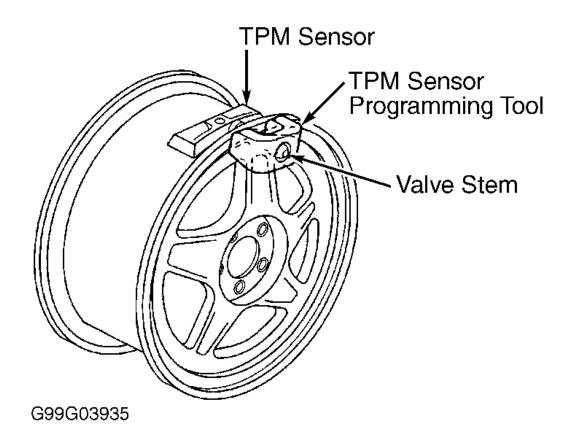


Fig. 2: Programming TPM Sensors
Courtesy of GENERAL MOTORS CORP.

# **TROUBLE SHOOTING**

#### PRELIMINARY INSPECTION

Check all system-related fuses. See <u>WIRING DIAGRAMS</u> . Inspect for loose or corroded connections, damaged wiring harnesses and switches. Check for broken or partially broken wire

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(s) inside insulation, which could cause system malfunction but prove good in a continuity/voltage check with system disconnected. Ensure any aftermarket electronic equipment is properly installed. If fault is found, repair as necessary. If no fault is found, perform self-diagnostics. See **SELF-DIAGNOSTIC SYSTEM**.

# **SELF-DIAGNOSTIC SYSTEM**

NOTE: DTCs may be displayed on instrument cluster. See ANALOG INSTRUMENT PANELS - CORVETTE article for procedure.

#### REMOTE KEYLESS ENTRY DIAGNOSTIC SYSTEM CHECK

- Connect scan tool to Data Link Connector (DLC) located under steering column. 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 Dash Integration Module (DIM), Driver Door Module (DDM) and Remote Control Door Lock Receiver (RCDLR) module. If scan tool communicates with these modules, go to next step. If scan tool does not communicate with these modules, go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES CORVETTE article.
- 3. Display DIM, DDM and RCDLR DTCs on scan tool. If scan tool displays any DTCs, go to next step. If scan tool does not display and DTCs, diagnose remote keyless entry system by symptom. See **SYMPTOM INDEX** table under SYSTEM TESTS.
- 4. If scan tool displays any DTCs which begin with a "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", go to next step.
- 5. If scan tool displays DTC B0605 or B1000, go to DTC B0605: BCM INTERNAL MEMORY MALFUNCTION or DTC B1000: ECU MALFUNCTION under DIAGNOSTIC TESTS in BODY CONTROL MODULES CORVETTE article. If scan tool does not display DTCs B0605 or B1000, go to **DIAGNOSTIC TROUBLE CODE DEFINITIONS**.

#### TIRE PRESSURE MONITORING SYSTEM DIAGNOSTIC SYSTEM CHECK

1. Connect scan tool to DLC located under steering column. 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

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UP under SYSTEM TESTS in BODY CONTROL MODULES - CORVETTE article.

- 2. Turn ignition off. Connect scan tool. Turn ignition on. Attempt to establish communication with Remote Control Door Lock Receiver (RCDLR) system. If scan tool communicates with RCDLR system, go to next step. If scan tool does not communicate with RCDLR system, go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES CORVETTE article.
- 3. Using scan tool, select RCDLR display function. Check for RCDLR DTCs. If any DTC exists, go to next step. If no DTCs exist, diagnose tire pressure monitoring system by symptom. See **SYMPTOM INDEX** table under SYSTEM TESTS.
- 4. Check for DTCs that begin with "U". If any "U" DTC exists, go to TEST B: SCAN TOOL DOES NOT COMMUNICATE WITH CLASS 2 DEVICE under SYSTEM TESTS in BODY CONTROL MODULES CORVETTE article. If no "U" DTCs exist, go to **DIAGNOSTIC TROUBLE CODE DEFINITIONS**.

#### DIAGNOSTIC TROUBLE CODE DEFINITIONS

# DIAGNOSTIC TROUBLE CODE DEFINITIONS

DTC (1)	Description	
<u>B3109</u>	Transmitter Low Battery Detected	
C0750, C0755, C0760 Or C0765	Tire Pressure MonitorSensor	
(1) Codes listed in this table are only for testing covered in this article. For complete DTC listing, see BODY CONTROL MODULES - CORVETTE article.		

#### **CLEARING CODES**

NOTE: DTCs may be cleared using instrument cluster clearing function.

See ANALOG INSTRUMENT PANELS - CORVETTE article for

procedure.

Using scan tool, clear DTCs following scan tool manufacturer's instructions.

# **DIAGNOSTIC TESTS**

DTC B3109: TRANSMITTER LOW BATTERY DETECTED

#### **Description**

Low battery detection is handled inside the transmitter. The transmitter sends a battery condition

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signal to Remote Control Door Lock Receiver (RCDLR) when transmitter buttons are pressed. DTC will set after 3 consecutive low battery signals from the same programmed transmitter. DTC will clear when a normal transmitter voltage signal is received from any programmed transmitter.

#### **Testing**

- 1. If remote keyless entry diagnostic system check was performed, go to next step. If remote keyless entry diagnostic system check has not been performed, go to **REMOTE KEYLESS ENTRY DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
- 2. Using scan tool, select DISPLAY DTCs function for Remote Control Door Lock Receiver (RCDLR). If scan tool indicates that DTC B3109 is current, go to next step. If scan tool does not indicate that DTC B3109 is current, problem is intermittent.
- 3. Using scan tool, observe KEY FOB LOW VOLTAGE parameters for each transmitter in KEY FOB INFORMATION data list to identify programmed transmitter(s) that set DTC. Replace battery(s) on indicated transmitter(s). After repairs, go to next step.
- 4. Using scan tool, clear DTCs. Operate transmitter(s) 3 consecutive times that had battery replaced. If DTC resets, go to next step. If DTC does not reset, system is okay.
- 5. Check for poor battery connections on transmitter(s) that set DTC. If a problem is found, repair as necessary. If a problem is not found, go to next step.
- 6. Replace transmitter(s). Ensure replacement transmitter(s) is correct model for vehicle. Program all transmitters at the same time. See **TRANSMITTER PROGRAMMING & SYNCHRONIZATION** under PROGRAMMING. After repairs, go to next step.
- 7. Using scan tool, clear DTCs. Operate replaced transmitter(s) 3 consecutive times. If DTC resets, go to next step. If DTC does not reset, system is okay.
- 8. Replace RCDLR. See **REMOTE CONTROL DOOR LOCK RECEIVER** under REMOVAL & INSTALLATION. Test is complete.

DTC C0750, C0755, C0760, C0765: TIRE PRESSURE MONITOR SENSOR

# **Description**

Tire Pressure Monitor (TPM) sensors begin to transmit a unique identification code and radio frequency signal to Remote Control Door Lock Receiver (RCDLR) when vehicle speed is greater than 20 MPH. This information is translated by the RCDLR into tire location and tire pressure. RCDLR waits for the first sensor to transmit it's information 8 times. RCDLR then checks weather all sensors have transmitted their information. If one or more sensors do not transmit their information, RCDLR will set the appropriate DTC for the sensor that did not transmit. DTC will set when vehicle has been driven for about 35 minutes at speeds over 20 MPH and a sensor has not transmitted it's tire pressure information or if any given sensor stops transmitting.

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#### **Testing**

- 1. If tire pressure monitoring system diagnostic system check has been performed, go to next step. If tire pressure monitoring system diagnostic system check has not been performed, go to <a href="https://doi.org/10.1001/JTRE.PRESSURE MONITORING SYSTEM DIAGNOSTIC SYSTEM CHECK">TIRE PRESSURE MONITORING SYSTEM DIAGNOSTIC SYSTEM CHECK</a> under SELF-DIAGNOSTIC SYSTEM.
- 2. Using scan tool, select Remote Function Actuation (RFA) display DTCs function. If scan tool indicates that DTC C0750, C0755, C0760 or C0765 is current, go to next step. If scan tool does not indicate that DTC C0750, C0755, C0760 or C0765 is current, go to **DIAGNOSTIC AIDS**.
- 3. Since some occurrences of this DTC are caused by radio interference or driving conditions, review TPM system with customer to verify conditions under which DTC set. If radio interference or driving conditions caused this DTC to set, go to **DIAGNOSTIC AIDS**. If radio interference or driving conditions did not cause this DTC to set, go to next step.
- 4. Clear DTCs. Reprogram all TPM sensors. See <u>TIRE PRESSURE MONITOR SENSOR</u> <u>PROGRAMMING</u> under PROGRAMMING. Operate vehicle within normal operating conditions. If DTC resets, go to next step. If DTC does not reset, system is okay.
- 5. Replace TPM sensor. See <u>TIRE PRESSURE SENSOR</u> under REMOVAL & INSTALLATION. Program all TPM sensors. See <u>TIRE PRESSURE MONITOR</u> <u>SENSOR PROGRAMMING</u> under PROGRAMMING. After repairs, go to next step.
- 6. Using scan tool, clear DTCs. Operate vehicle within normal operating conditions. If DTC resets, go to next step. If DTC does not reset, system is okay.
- 7. Replace RCDLR. See <u>REMOTE CONTROL DOOR LOCK RECEIVER</u> under REMOVAL & INSTALLATION. Operate vehicle within normal operating conditions. If DTC resets, go to <u>DIAGNOSTIC AIDS</u>. If DTC does not reset, system is okay.

# **Diagnostic Aids**

If there is an open in serial data circuit to Remote Control Door Lock Receiver (RCDLR), DIC will display SERVICE TPM SYSTEM message and display only dashes for all tire pressure readings. Clear DTCs before road testing vehicle whenever a TPM sensor is replaced in order to avoid reading original DTC stored in memory. Take tire pressure measurements when tires are cold in order to obtain lowest readings. Occasionally TPM sensor transmission will not be received by RCDLR due to vehicle level radio frequency interference.

# SYSTEM TESTS

## SYMPTOM INDEX

Symptom	Perform Test
·	

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Panic Mode Inoperative	<u>A</u>
Keyless Entry System Inoperative	<u>B</u>

#### **TEST A: PANIC MODE INOPERATIVE**

- 1. If remote keyless entry diagnostic system check was performed, go to next step. If remote keyless entry diagnostic system check has not been performed, go to **REMOTE KEYLESS ENTRY DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
- 2. Change keyless entry alarm settings to ALARM HORN and LIGHTS ON. See <u>REMOTE</u> <u>FUNCTION ACTUATOR SETTINGS</u> under PROGRAMMING. Using keyless entry transmitter, attempt to operate PANIC button. If horns and lights pulse on and off, problem is intermittent. If horns and lights do not pulse on and off, go to next step.
- 3. If no panic functions operate, go to **TEST B: KEYLESS ENTRY SYSTEM INOPERATIVE** . If any panic functions operate, go to next step.
- 4. If horns pulse on and off, repair exterior lights. See EXTERIOR LIGHTS article. If horns do not pulse on and off, perform horn diagnostic system check. See HORN DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM in STEERING COLUMN SWITCHES CORVETTE article.

#### TEST B: KEYLESS ENTRY SYSTEM INOPERATIVE

- 1. If remote keyless entry diagnostic system check was performed, go to next step. If remote keyless entry diagnostic system check has not been performed, go to **REMOTE KEYLESS ENTRY DIAGNOSTIC SYSTEM CHECK** under SELF-DIAGNOSTIC SYSTEM.
- 2. Individually activate each transmitter button. If system operates normally, problem is intermittent. If system does not operate normally, go to next step.
- 3. Lock and unlock doors using power door lock switches inside vehicle. If power door locks operate properly, go to next step. If power door locks do not operate properly, perform door systems diagnostic system check. See DOOR SYSTEMS DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM in POWER DOOR LOCKS CORVETTE article.
- 4. Operate rear compartment release switch from controls inside vehicle. If rear compartment release operates properly, go to next step. If rear compartment release does not operate properly, perform body rear end diagnostic system check. See BODY REAR END DIAGNOSTIC SYSTEM CHECK under SELF-DIAGNOSTIC SYSTEM in POWER HATCH & FUEL DOOR RELEASE CORVETTE article.

NOTE: Before proceeding, ensure keyless entry transmitter is correct

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# model for this vehicle. An incorrect model transmitter may pass this test, but will not activate vehicle remote system.

- 5. Place transmitter on Keyless Entry Tester (J 43241) test pad. Individually press each transmitter button. If tone sounds and green light illuminates on keyless entry test after each button is pressed, go to step 10. If tone does not sound or green light does not illuminate on keyless entry test after each button is pressed, go to next step.
- 6. If no transmitter buttons cause tone and green light to operate, go to next step. If any transmitter buttons cause tone and green light to operate, go to step 9.
- 7. Replace transmitter battery. After repairs, go to next step.
- 8. Place transmitter on Keyless Entry Tester (J 43241) test pad. Individually press each transmitter button. If tone sounds and green light illuminates on keyless entry tester after each button is pressed, go to step 10. If tone does not sound or green light does not illuminate on keyless entry tester after each button is pressed, go to next step.
- 9. Replace transmitter. Ensure replacement transmitter is correct model for vehicle. Program all transmitters at the same time. See <u>TRANSMITTER PROGRAMMING & SYNCHRONIZATION</u> under PROGRAMMING. After repairs, go to next step.
- 10. Press PANIC button on transmitter. If panic function operates normally, go to next step. If panic function does not operate normally, go to step 13.
- 11. Perform synchronization procedure. See <u>TRANSMITTER PROGRAMMING & SYNCHRONIZATION</u> under PROGRAMMING. If horn chirped, go to next step. If horn did not chirp, go to step 13.
- 12. Operate transmitter within range of vehicle. If all keyless entry functions operate normally, go to step 15. If all keyless entry functions do not operate normally, go to next step.
- 13. Perform transmitter programming procedure. See <u>TRANSMITTER PROGRAMMING</u> <u>& SYNCHRONIZATION</u> under PROGRAMMING. If programming was completed successfully, go to step 15. If programming was not completed successfully, go to next step.
- 14. Replace remote control door lock receiver. See **<u>REMOTE CONTROL DOOR LOCK</u> <u>RECEIVER</u>** under REMOVAL & INSTALLATION. After repairs, go to next step.
- 15. Recheck system operation. If system operates properly, system is okay. If system does not operate properly, go to step 3.

# **REMOVAL & INSTALLATION**

REMOTE CONTROL DOOR LOCK RECEIVER

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The remote control door lock receiver is located over left rear wheelwell. Turn ignition off. Remove left rear tub trim plate. Gently pull on retainer at back side of receiver. Pull out receiver to expose harness connector. Disconnect receiver harness connector. See <u>Fig. 3</u>. Remove receiver.

#### Installation

Connect receiver harness connector. Align receiver with slots on retainer. Snap receiver into place on retainer. To complete installation, reverse removal procedure. Program transmitters. See <a href="https://doi.org/10.1007/jtm2.1007/j

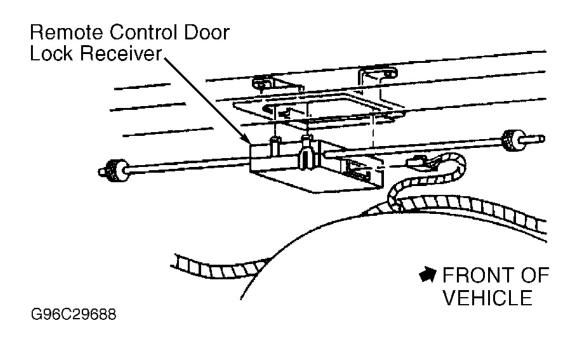


Fig. 3: Removing & Installing Remote Control Door Lock Receiver Courtesy of GENERAL MOTORS CORP.

#### TIRE PRESSURE SENSOR

#### **Removal & Installation**

Raise and support vehicle. Remove wheel and tire from vehicle. Dismount tire from wheel using care not to strike TPM sensor, which is part of valve stem. Remove retaining nut from front side

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of wheel and remove TPM sensor from back side of wheel. See  $\underline{\mathbf{Fig. 4}}$ . To install, reverse removal procedure. Tighten retaining nut to 35 INCH lbs. (4 N.m).

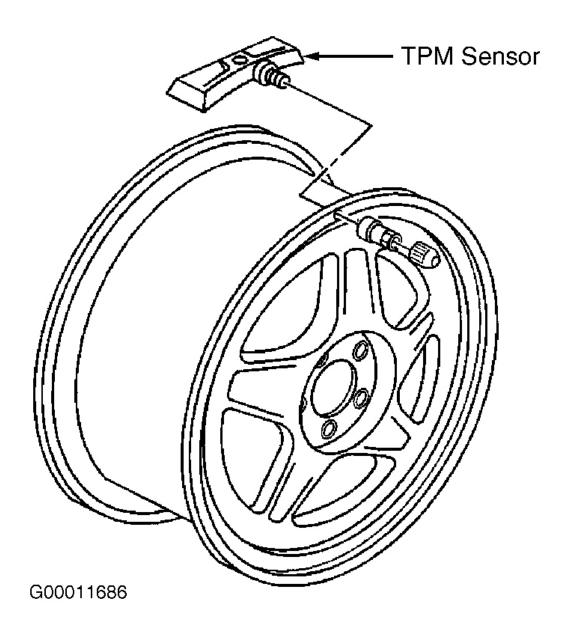


Fig. 4: Replacing Tire Pressure Monitoring Sensor Courtesy of GENERAL MOTORS CORP.

**WIRING DIAGRAMS** 

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Fig. 5: Power Door Locks & Remote Keyless Entry System Wiring Diagram (Corvette)