POWER DOOR LOCKS

CONTENTS

	page		page
POWER DOOR LOCKS	1	**REMOTE KEYLESS ENTRY**	3

POWER DOOR LOCKS

INDEX

	page		page
DESCRIPTION AND OPERATION		WIRING	2
INTRODUCTION	1	**REMOVAL AND INSTALLATION**	
DIAGNOSIS AND TESTING		DOOR LOCK MOTOR	2
DOOR LOCK MOTOR	1	DOOR LOCK SWITCH	2
DOOR LOCK SWITCH	1		

DESCRIPTION AND OPERATION

INTRODUCTION

All doors can be locked or unlocked electrically by operating the switch on either front door panels.

The rear doors can be locked or unlocked by actuation of the front door switch, or can be locked or unlocked mechanically and independently with their respective locking knobs.

The front doors can be locked or unlocked mechanically with the locking knob regardless of electrical locking and unlocking actuation with the front door knobs.

The right and left front door can be locked or unlocked mechanically from the outside with the key or electrically as described above.

CHILD PROTECTION LOCK

The child protection lock is on the rear door only. The lock will disable the inside door handle from opening the door when engaged. The lock is part of the latch/lock assembly. The lock is engaged by moving a lever that is located on the rearward inside edge of the door.

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, RHD, or Export if a special illustration or procedure is required.

DIAGNOSIS AND TESTING

DOOR LOCK MOTOR

Make certain battery is in normal condition before circuits are tested.

To determine which motor is faulty, check each individual door for electrical lock and unlock or disconnect the motor connectors one at a time, while operating the door lock switch. In the event that none of the motors work, the problem maybe caused by a shorted motor, or a bad switch. Disconnecting the defective motor will allow the others to work.

To test an individual door lock motor, disconnect the electrical connector from the motor. To lock the door, connect a 12 volt power source to the positive pin of the lock motor and a ground wire to the other pin (Fig. 1) To unlock the door reverse the wire connections at the motor pin terminals. If these results are NOT obtained, replace the door latch assembly.

DOOR LOCK SWITCH

Remove the switch from its mounting location. Using an ohmmeter, refer to (Fig. 2) to determine if

DIAGNOSIS AND TESTING (Continued)

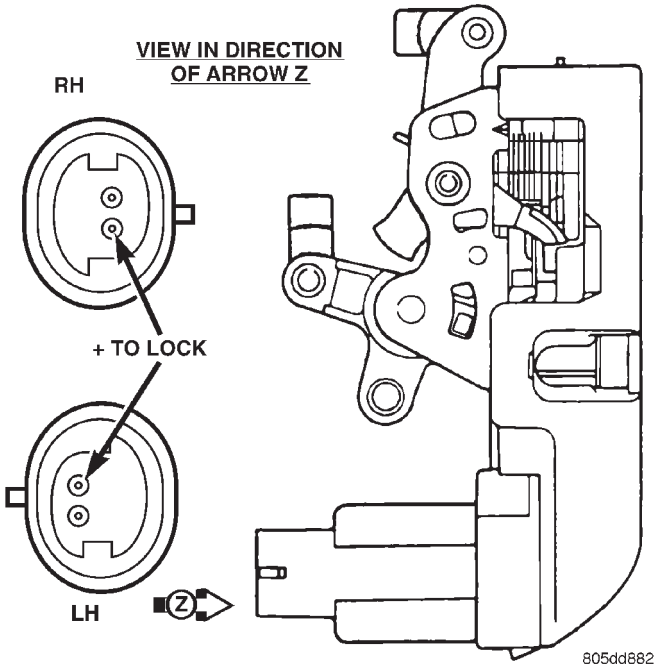
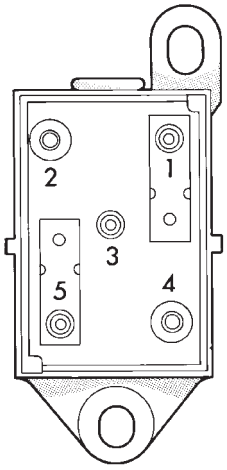


Fig. 1 Door Latch Assembly

continuity is correct in the Lock and Unlock switch positions. If these results are not obtained, replace the switch.



SWITCH POSITION	CONTINUITY BETWEEN
OFF	PINS 1 & 4 PINS 2 & 5
UNLOCK	PINS 3 & 5 PINS 1 & 4
LOCK	PINS 1 & 3 PINS 2 & 5

Fig. 2 Door Lock Switch Continuity Test

WIRING

The following wiring test sequence determines whether or not voltage is continuous through the body harness to switch.

(1) Remove left side switch from door trim panel.

(2) Carefully separate multiple terminal block on wiring harness from switch body.

(3) Connect one lead of test light to a ground terminal. Touch other test light lead to Red Wire terminal.

(a) If test light comes on, the wiring circuit between the battery and switch is functional.

(b) If test light does not come on, check fuse 3 in the fuse block or for a open circuit.

(4) If test light comes on, the wiring circuit between the battery and switch is functional.

REMOVAL AND INSTALLATION

DOOR LOCK MOTOR

REMOVAL

(1) Remove door trim panel, refer to Group 23, Body for removal procedures.

(2) Disconnect all door linkages at the latch/lock assembly (Fig. 1).

(3) Disconnect motor wire connector.

(4) Remove latch/lock assembly attaching screws and remove assembly.

INSTALLATION

For installation, reverse the above procedures.

DOOR LOCK SWITCH

REMOVAL

(1) Remove front door trim, refer to Group 23, Body for proper procedures.

(2) Disconnect wire connector.

(3) Remove attaching screws.

(4) Remove the switch.

INSTALLATION

For installation, reverse the above procedures.

REMOTE KEYLESS ENTRY

INDEX

page

GENERAL INFORMATION
INTRODUCTION 3
DESCRIPTION AND OPERATION
VEHICLE ACCESS CODE (VAC) PROGRAMMING 3
DIAGNOSIS AND TESTING
REMOTE KEYLESS ENTRY CONDITION 3
REMOTE KEYLESS ENTRY SYSTEM 5
SERVICE PROCEDURES
HORN CHIRP CANCELLATION 5
PANIC FUNCTION CANCELLATION 5
PROGRAM REMOTE KEYLESS ENTRY MODULE 5
REMOVAL AND INSTALLATION
REMOTE KEYLESS ENTRY MODULE 6
SPECIFICATIONS
RKE TRANSMITTER BATTERY 6
RKE TRANSMITTER RANGE 6

GENERAL INFORMATION

INTRODUCTION

The key fob transmitter has three buttons to actuate and program the Remote Keyless Entry (RKE) system (Fig. 1).

- UNLOCK: Actuating the UNLOCK button once will unlock the driver door and activate the illuminated entry system. Actuating the UNLOCK button twice within five seconds will unlock all doors.
- LOCK: Actuating the LOCK button locks all doors and sounds horn (chirp). The chirp verifies the door lock operation.
- PANIC: Actuating the PANIC button sounds the horns and alternately flashes the headlamps and parking lamps. The panic alarm will remain on for one minute, until the PANIC button is actuated again or the ignition is switched to the RUN position.
- The Remote Keyless Entry Module is capable of retaining the transmitter Vehicle Access Code (VAC) in memory even after vehicle power has been interrupted.

DESCRIPTION AND OPERATION

VEHICLE ACCESS CODE (VAC) PROGRAMMING

The system allows locking and unlocking of vehicle door(s) by remote control using a hand held radio frequency transmitter. The ignition switch must be OFF before the panic function can be activated with the transmitter.

The receiver may receive VAC signals from two transmitters. Each transmitter has its own Vehicle Access Code and the code is programmed and stored into receiver memory. If the transmitter is replaced or a second transmitter is added, the codes of both units have to be reprogrammed into the receiver memory. If a receiver module is replaced, both the transmitter codes must be stored in the new receiver memory.

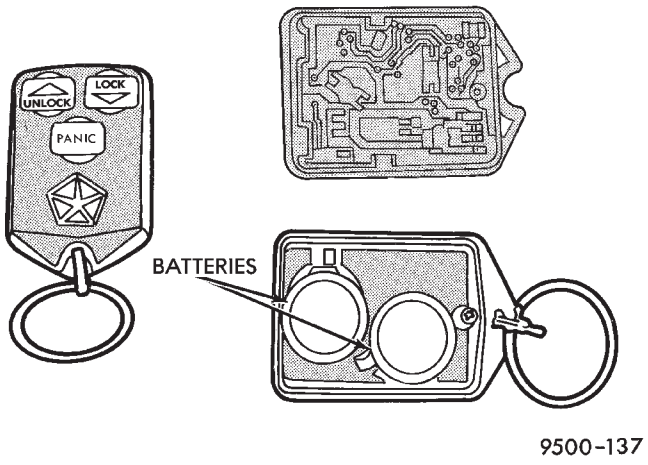


Fig. 1 Key Fob Transmitter

OPERATION

The transmitter has three buttons for operation (Fig. 1). They are LOCK, UNLOCK and PANIC.

The receiver is capable of retaining all Vehicle Access Codes (VAC) even when power is removed.

Each remote keyless entry module (RKE) must have at least one and no more than two transmitters.

DIAGNOSIS AND TESTING

REMOTE KEYLESS ENTRY CONDITION

Use an analog voltmeter for the following test.

DIAGNOSIS AND TESTING (Continued)

REMOTE KEYLESS ENTRY GENERAL CHECKS BEFORE OTHER CHECKS.

(1) Check if door locks operate properly. If not OK, repair as necessary.

(2) Disconnect the wire connectors at the RKE module Using a ohmmeter check for continuity between the Pins of the wire connectors (Fig. 2):

- Pin 1 to Pin 4 of the gray connector.
- Pin 2 to Pin 3 of the gray connector.
- Pin 1 of the black connector to Pin 3 of the gray connector.

If no continuity repair as necessary. Refer to Group 8W, Wiring Diagrams.

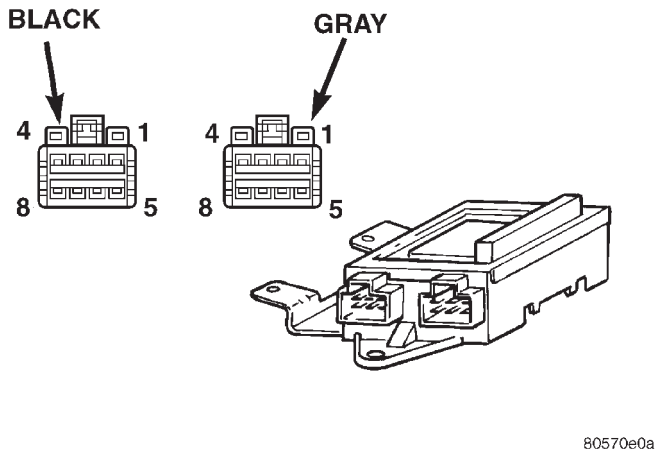


Fig. 2 Remote Keyless Entry Module

(3) Using a voltmeter, check the wire connectors for battery feed and ignition feed (Fig. 2):

- Check Pin 2 of the black connector for battery feed.
- Check Pin 8 of the black connector for ignition feed with the ignition key in the ON position.

If not OK, check and repair as necessary.

(4) Using a ohmmeter, check the Pin 8 of the black connector for continuity to ground. If not OK, check and repair as necessary (Fig. 2).

(5) Test transmitter batteries for at least six volts. If not OK, replace batteries as necessary.

(6) Check if module is programmed properly. Refer to Program Remote Keyless Entry Module. If module will not program check for continuity between Pin 4 of the black connector to the programming line connector (Fig. 2). If no continuity repair as necessary, refer to Group 8W, Wiring Diagrams.

(7) Check if horn operates properly. If not OK, repair as necessary.

DRIVER DOOR WILL NOT UNLOCK WITH THE TRANSMITTER

(1) Using an analog voltmeter, connect the meter to Pin 1 of the black connector and to ground. Press the unlock button once and check for a voltage pulse (Fig. 2).

(2) If no voltage pulse is measured, replace the receiver. If voltage pulse is measured, check the wiring to the driver door and repair as necessary.

DRIVER DOOR WILL UNLOCK WITH THE TRANSMITTER, BUT ALL OTHER DOORS WILL NOT UNLOCK

(1) Using an analog voltmeter, connect the meter to Pin 3 of the gray connector and to ground (Fig. 2). Press the unlock button twice within five seconds and check for a voltage pulse.

(2) If no voltage pulse is measured, replace the receiver. If voltage pulse is measured, check the wiring to the passenger door lock motors and repair as necessary.

ALL DOORS WILL NOT LOCK WITH THE TRANSMITTER

(1) Using an analog voltmeter, connect the meter to Pin 1 of the gray connector and to ground. Press the lock button and check for a voltage pulse (Fig. 2).

(2) If no voltage pulse is measured, replace the receiver. If voltage pulse is measured, check the wiring to the door lock motors and repair as necessary.

DOORS WILL LOCK USING THE TRANSMITTER BUT THERE IS NO HORN CHIRP

(1) Using an analog voltmeter, connect the meter to Pin 6 of the gray connector and to ground. Press the lock button and check for a voltage pulse decrease (Fig. 2).

(2) If no voltage pulse decrease is measured, replace the receiver. If voltage OK, repair circuit to the horn relay as necessary.

ILLUMINATED ENTRY FAILS TO WORK IN INITIAL UNLOCKING WITH TRANSMITTER

(1) Using an analog voltmeter, connect the meter to Pin 6 of the black connector and to ground. Press the lock button and check for a voltage pulse decrease (Fig. 2).

(2) If no voltage pulse decrease is measured, replace the receiver. If voltage OK, repair circuit to the dome as necessary.

PARKING LAMPS AND/OR HEAD LAMPS FAIL TO FLASH WITH PANIC BUTTON

(1) Using an analog voltmeter, connect the meter to Pin 5 of the gray connector and to ground to test parking lamps out put. Press the panic button and check for a voltage pulse (Fig. 2).

(2) If no voltage pulse is measured, replace the receiver. If voltage OK, repair circuit to the parking lamps as necessary.

DIAGNOSIS AND TESTING (Continued)

(3) Connect the meter to Pin 5 of the black connector and to ground to test head lamps out put. Press the panic button and check for a voltage pulse (Fig. 2).

(4) If no voltage pulse is measured, replace the receiver. If voltage OK, repair circuit to the head lamps as necessary.

REMOTE KEYLESS ENTRY SYSTEM

When trouble shooting problems with the Remote Keyless Entry System, always verify that the power door lock/unlock switches are functional. If the doors do not lock/unlock refer to Group 8W, Wiring Diagram for Pin and wiring locations.

If the following items do not work:

- Remote keyless entry system
- Radio/clock
- Door lock switches

A blown fuse is the probable cause. Check fuses 2, 3 and 11 in the fuse block. To check for a blown fuse, pull the fuse out slightly, but maintain contact between the fuse terminals and the terminals in fuse block. Using the voltmeter probe, check both terminals for 12 volts. If only one terminal measures battery voltage, the circuit breaker is defective and must be replaced. If neither terminal measures battery voltage, check the high current fuses 3 and 11 in the Power Distribution Center (PDC). The PDC is located in the engine compartment. If fuse(s) are NOT OK, replace fuse(s) or repair as necessary. If fuses are OK, check for an open or shorted circuit to the Power Distribution Center, repair as needed.

SERVICE PROCEDURES

HORN CHIRP CANCELLATION

During the programming operation the horn chirp can be disabled or enable using the following procedure. One or both transmitters can be program to be disabled or enable.

(1) Retrieve the programming line from the upper edge of the passenger side cowl trim panel upper edge. The RKE Programming Line is a green wire with a red bullet connector.

(2) Using a jumper wire, ground the RKE programming line.

(3) Turn ignition switch to the ON position.

(4) Press any button on the transmitter. The locks will cycle to confirm programming,

(5) To disable or enable horn chirp press the lock button on the transmitter four times and the horn will sound to confirm programming. Press the lock button on the second transmitter four times and the horn will sound to confirm programming.

(6) Disconnect the programming line from ground. This returns the system to its normal operation mode.

(7) Replace any removed components. Return programming line chirpto its original position. Check for system operation.

PANIC FUNCTION CANCELLATION

During the programming operation the panic function can be disabled or enable using the following procedure. One or both transmitters can be program to be disabled or enable.

(1) Retrieve the programming line from the upper edge of the passenger side cowl trim panel. The RKE Program Line is a green wire with a red bullet connector.

(2) Using a jumper wire, ground the RKE Programming Line.

(3) Turn ignition switch to the ON position.

(4) Press any button on the transmitter. The locks will cycle to confirm programming,

(5) To disable or enable panic function press the panic button on the transmitter four times and the horn will sound to confirm programming. Press the panic button on the second transmitter four times and the horn will sound to confirm programming.

(6) Disconnect the programming line from ground. This returns the system to its normal operation mode.

(7) Replace any removed components. Return the programming line to its original position. Check for system operation.

PROGRAM REMOTE KEYLESS ENTRY MODULE

(1) Retrieve the programming line from the upper edge of the passenger side cowl trim panel. The RKE Programming Line is a green wire with a red bullet connector.

(2) Using a jumper wire, ground the RKE programming line.

(3) Turn ignition switch to the ON position.

(4) Press any button on the transmitter to set code. The locks will cycle to confirm programming. If there is a second transmitter it must be set at this time. Press any button on the second transmitter and wait for the locks to cycle to confirm programming.

(5) Disconnect the programming line from ground. This returns the system to its normal operation mode.

(6) Replace all removed components. Return programming line to its original position. Check for system operation.

REMOVAL AND INSTALLATION

REMOTE KEYLESS ENTRY MODULE

REMOVAL

(1) Remove the right trim panel, refer to Group 8E, Instrument Panel and Systems for proper removal procedures.

(2) Disconnect wire connector from RKE module.

(3) Remove screws holding RKE module to instrument panel assembly (Fig. 3).

(4) Remove module.

INSTALLATION

For installation, reverse above procedures.

SPECIFICATIONS

RKE TRANSMITTER BATTERY

The batteries can be removed without special tools and are readily available at local retail stores. The recommended battery is Duracell DL 2016 or equivalent. Battery life is about one to two years.

CAUTION: Do not touch the battery terminals or handle the batteries any more than necessary. Hands must be clean and dry.

RKE TRANSMITTER RANGE

Normal operation range is up to about a distance of 7 meters (23 ft.) of the vehicle. Range may be better or worse depending on the environment around the vehicle. Closeness to a radio frequency transmitter such as a radio station tower may degrade operational range, while range in an open field will be enhanced.

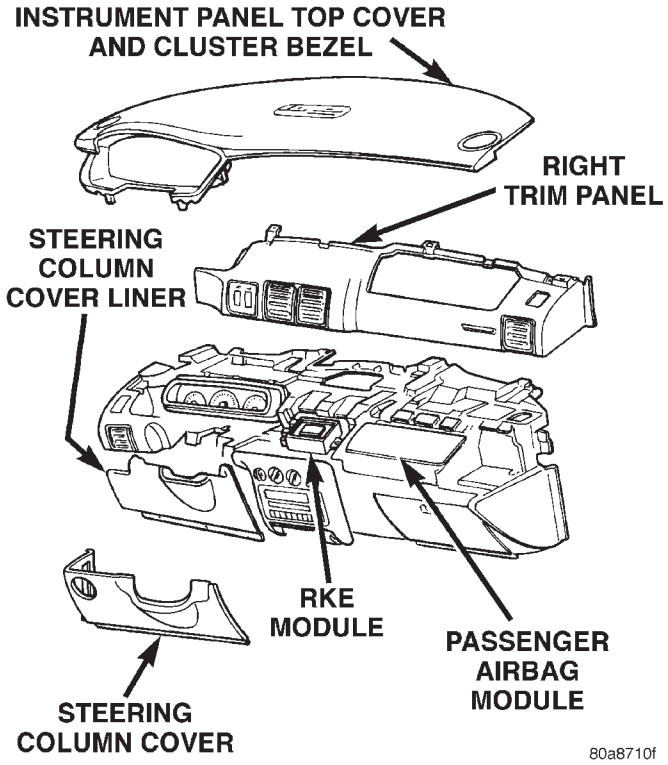


Fig. 3 RKE Module Location