KEYLESS ENTRY SYSTEM

1993 Jeep Cherokee

1993 ACCESSORIES & EQUIPMENT
Chrysler Corp. Keyless Entry System

Jeep; Cherokee

DESCRIPTION & OPERATION

SYSTEM

The keyless entry system consists of a portable remote control transmitter and a receiver mounted between the sun visors. System operation is based on a coded infrared signal from transmitter to the receiver. The transmitter is programmed into the receiver providing the correct programming sequence is met.

When keyless entry system is activated, the corresponding relay operates supply voltage to motors. The use of either relay determines the polarity of voltage that is supplied to door lock motors.

When keyless entry system is used, the transmitter sends a signal to keyless entry module. If doors are unlocked, the module activates a transistor switch to apply voltage to lock relay coil. The coil is energized to close the normally open contacts of lock relay. Battery voltage from relay is applied to door lock motors to lock the doors. Current flows in same path to ground as it does when master door lock switch is used.

When doors are locked, the keyless entry module applies voltage to unlock relay coil and a similar action takes place to unlock doors.

TRANSMITTER

The pocket size, solid state transmitter operates on 2, 3 volt lithium (CR1616) batteries. The transmitter is activated by pressing either the lock or unlock button. This closes the internal contacts that complete the battery circuit.

The battery voltage activates the transmitter diode which in turn generates a coded infrared signal. The signal is transmitted as pulses of infrared light.

If the red LED on the side of transmitter does not light when transmitter is activated, the batteries are low.

RECEIVER

The receiver is in circuit with the electric door lock system. The coded infrared signal is picked up by the receiver diode and is shaped, amplified and decoded by an integrated circuit within the receiver. If the signal code received matches the code in the receiver memory circuit, the receiver triggers the door lock/unlock relays. The relays complete circuit to electric door lock solenoid to either lock or unlock doors.

To activate the system, aim transmitter diode toward the receiver and press transmitter signal button to lock or unlock doors as desired.

Effective transmitter range is 15 ft. with transmitter positioned no more than 45 degrees from receiver centerline.

PROGRAMMING

TRANSMITTER PROGRAMMING

Up to 4 Transmitter Identification Codes (TIC's) can be programmed into receiver at any given time.

1) Open driver's door of vehicle. Leave it open through the programming procedure.

2) Move mechanical door lock lever to the LOCK position.

3) Insert ignition key and turn it to RUN position.

4) Turn ignition to RUN position. Within 20 seconds, aim a transmitter at receiver dome and press lock button, for at least 5 seconds. Once receiver accepts programming code the driver's door will unlock.

5) Once first transmitter has been programmed, additional transmitters (up to 4) may be programmed into receiver. Within 20 seconds of the previous transmitter programming, move the mechanical door lock lever to LOCK position. Aim another transmitter at receiver dome and press LOCK button for at least 5 seconds. The door lock will cycle again.

6) To lock the programmed codes into the receiver, the ignition must be turned off and back on within 20 seconds after programming the last transmitter's code. At that time, all previous codes are erased from the module.

DIAGNOSIS

NO DOOR LOCKS OPERATE USING TRANSMITTER

1) Measure resistance at Keyless entry module terminal 10. Meter should read 0 ohms. If not, repair open to ground.

2) Measure voltage at Keyless entry module terminal 1. Meter should read battery voltage. Battery voltage must be at least 9 volts for this system to operate. If not, repair open to Dome fuse.

3) Jumper test leads Keyless entry module terminal 1 to terminal 3. Doors should lock. If OK, replace module. If not, repair open from terminal 3 to Lock relay terminal 1.

4) Jumper test leads Keyless entry module terminal 1 to terminal 4. Door should unlock. If OK, replace module. If not, repair open from terminal 4 to Unlock relay terminal 1.

REMOVAL & INSTALLATION

TRANSMITTER SERVICE

If receiver malfunctions, only the receiver will have to be replaced. The new receiver will have to be reprogrammed. If a transmitter is lost, replace the transmitter and reprogram receiver.

Batteries may not be supplied with some replacement transmitters. Be sure to check a replacement transmitter before attempting to activate system.

TRANSMITTER BATTERY

Removal & Installation

1) Separate transmitter at middle seam. Remove and discard old batteries. Install new CR 1616 batteries. Be sure batteries are installed according to polarity as shown on transmitter battery receptacles.

2) Assemble transmitter and verify correct battery installation. The voltage indicator light will glow when batteries are properly installed.

RECEIVER SERVICE

Removal & Installation

1) Remove 2 screws attaching receiver housing to headlining. Pull housing toward rear of vehicle to disengage clip. Disconnect receiver harness connector.

2) Remove circuit board from housing. Reverse the removal procedures to install the receiver.

DOOR LOCK/UNLOCK RELAY

Removal & Installation

1) The power window relays are in the relay center, which is located on lower instrument panel trim cover just right of the steering column. Remove both relays.

2) Remove appropriate relay from relay center. To install new relay(s) reverse removal procedure.

WIRING DIAGRAMS

For wiring see WIRING DIAGRAMS article.