

DOOR LOCKS - POWER

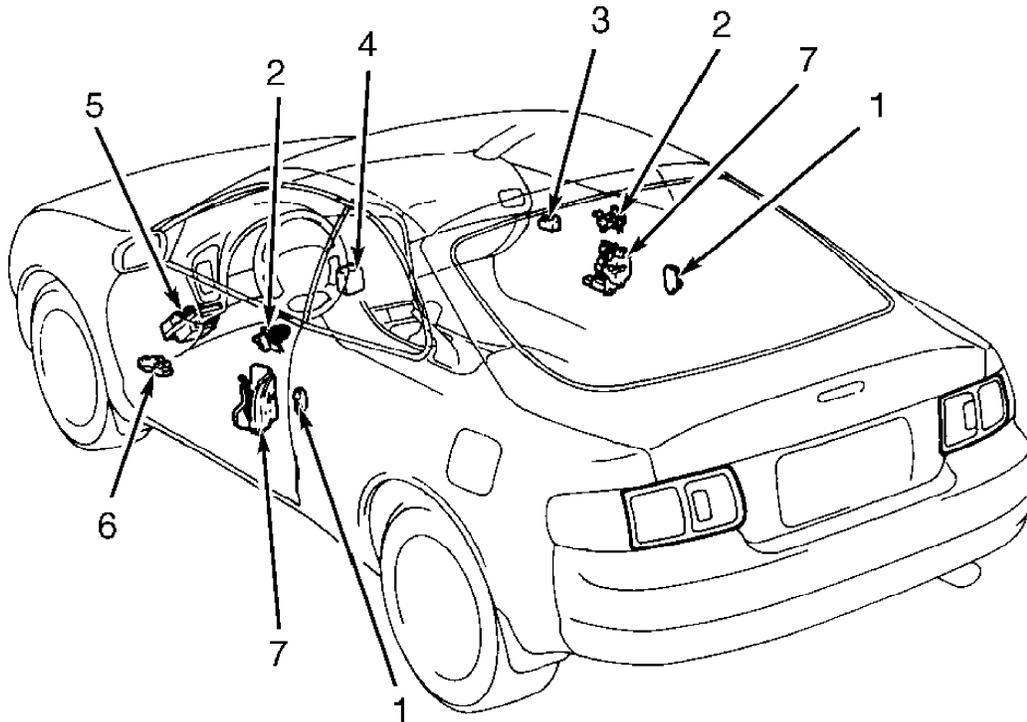
1994 Toyota Celica

1994 ACCESSORIES & EQUIPMENT
Toyota Motor Sales, U.S.A., Inc. - Power Door Locks

Celica

DESCRIPTION & OPERATION

All doors can be locked or unlocked simultaneously using either front door. Turning driver-side door lock once will unlock driver-side door only, twice will unlock all doors. Door locks can be controlled by switches on driver-side or passenger-side doors within vehicle, or by operating each door lock with key or lock knob. Front door(s) cannot be manually locked when key is in ignition switch. See Fig. 1.



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|--|---|
| 1. Door Courtesy Switch | 5. Instrument Panel Junction Block (Power, Door & Gauge Fuses & Power Main Relay) |
| 2. Door Lock Manual Switch | 6. Door Lock Control Switch (Power Window Master Switch) |
| 3. Passenger's Side Door Lock Control Switch | 7. Door Lock Assembly (Door Lock Motor & Door Unlock Detection Switch) |
| 4. Door Lock Control Relay | |

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Fig. 1: Locating Power Door Lock Components
Courtesy of Toyota Motor Sales, U.S.A., Inc.

TROUBLE SHOOTING

NOTE: Trouble shoot problems in the order listed.

Door Lock System Does Not Operate

- * Check fuse(s).
- * Check door lock switch signal.
- * Check door lock motor operation.
- * Check door lock control relay. See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS.
- * Check harness and connectors.

Door Lock System Does Not Operate With Manual Switch

- * Check door lock manual switch.
- * Check door lock control relay. See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS.
- * Check door lock motor operation.
- * Check harness and connectors.

Door Lock System Does Not Operate With Door Key

- * Check door key lock and unlock switch
- * Check door lock control relay. See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS.
- * Check harness and connectors.
- * Check door lock link disconnected.

Driver Door 2-Key Turns, Key Unlock Function Does Not Operate

- * Check door key lock and unlock switch.
- * Check harness and connectors.
- * Check door lock control relay. See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS.

Key In Ignition Switch Warning, Does Not Operate

- * Check key unlock warning switch.
- * Check door courtesy switch.
- * Check door lock switch.
- * Check harness and connectors.
- * Check door lock control relay. See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS.

Only One Door Lock Does Not Operate

- * Check door lock motor operation.
- * Check harness and connectors.

TESTING

COMPONENT TESTING

NOTE: For connector terminal identification, see WIRING DIAGRAM.

Door Courtesy Switch

Locate door courtesy switch in each door, next to power door lock assembly. Ensure continuity exists between terminal(s) and switch body with switch pin released (switch ON). Ensure no continuity exists between terminal(s) and switch body with switch pin pushed in (switch OFF). If continuity is not as specified, replace switch and retest system.

Door Key Lock & Unlock Switch

Locate door key lock and unlock switch connector behind door panel. Disconnect 7-pin connector. Ensure continuity exists between switch terminals No. 2 and 3 with switch in LOCK position. Ensure continuity exists between switch terminals No. 1 and 2 with switch in UNLOCK position. If continuity is not as specified, replace switch and retest system.

Door Lock Manual Switch (Driver & Passenger Sides)

Locate door lock manual switch in front door. Disconnect 4-pin connector. Ensure continuity exists between switch terminals No. 2 (White/Black wire) and No. 4 (Blue/Black wire) with switch in LOCK position. Ensure continuity exists between switch terminals No. 2 and No. 3 (Blue wire) with switch in UNLOCK position. Ensure no continuity exists in OFF position. If continuity is not as specified, replace switch and retest system.

Door Lock Motor Operation

Locate front or rear door lock motor, and disconnect door lock motor 7-pin connector. Connect positive battery lead to terminal No. 7 (Blue/White wire) and negative battery lead to terminal No. 5 (Blue/Red wire). Ensure door lock link moves to LOCK position. Reverse battery leads and ensure door lock link moves to UNLOCK position. If door lock motor operation is not as specified, replace door lock assembly and retest system.

Door Unlock Detection Switch

Locate front door lock motor and disconnect door lock motor 7-pin connector. Ensure continuity exists between connector terminals No. 4 (Green wire) and No. 6 (White/Black wire) with door unlock detection switch in UNLOCK position. Ensure no continuity exists with switch in LOCK position. If continuity is not as specified, replace door lock assembly and retest system.

Key Unlock Warning Switch

Locate ignition switch 10-pin connector. With key removed from switch, ensure continuity exists between connector terminals No. 1 and 5. If continuity is not present, replace key unlock warning switch.

Positive Temperature Coefficient (PTC) Thermistor Operation

1) Locate front or rear door lock motor in door. Disconnect door lock motor 7-pin connector. Connect positive battery lead to door lock motor terminal No. 7 (Blue/White wire). Connect ammeter positive lead to door lock motor terminal No. 5 (Blue/Red wire) and ammeter negative lead to negative battery terminal. Ensure current changes from 3.2 amps to less than 0.5 amp within 20-70 seconds. If current changes as specified, go to next step. If current does not change as specified, replace door lock assembly.

2) Disconnect test leads from terminals and wait at least 60 seconds. Connect positive battery lead to door lock motor terminal No. 5 and negative battery lead to terminal No. 7. Ensure door lock link moves to LOCK position. If operation is not as specified, replace door lock assembly and retest system.

DOOR LOCK SWITCH SIGNAL TEST

NOTE: Ensure power door lock harness and connector circuits are okay before testing door lock switch signal. See the POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS.

Door Lock Switch Signal

Locate power door lock control relay. Ensure control relay 16-pin connector is connected. Using voltmeter positive lead, backprobe Blue/Red wire terminal of connector. Using voltmeter negative lead, backprobe Blue/White wire terminal of connector. Ensure voltage increases from zero to battery voltage for approximately 0.2 second with door lock manual switch in UNLOCK position. Reverse voltmeter leads and ensure voltage increases from zero to battery voltage for approximately 0.2 second with door lock manual switch in LOCK position. If voltage does not change as specified, replace power door lock control relay and retest system.

POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING CHARTS

NOTE: Power door lock ECU or control relay circuit test charts are provided to pinpoint a malfunctioning circuit. Checking pin voltages at power door lock ECU or control relay connectors will help determine if power door lock ECU and control relay are receiving and sending proper voltage signals. Using test charts may also help determine if there is a short or open in harness or connectors.

NOTE: Unless stated otherwise in testing procedures, perform all voltage tests using a Digital Volt-Ohmmeter (DVOM) with a minimum 10-megohm input impedance. Voltage readings may vary slightly due to battery condition or charging rate.



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Fig. 2: Power Door Lock Control Relay Circuit Connector
Courtesy of Toyota Motor Sales, U.S.A., Inc.

Tester connection to terminal number	Condition	Specified value (Voltage)
8 – Ground	Constant	Battery positive voltage
1 – Ground	Ignition switch position LOCK or ACC	No voltage
1 – Ground	Ignition switch position ON	Battery positive voltage
Tester connection to terminal number	Condition	Specified value (Continuity)
2 – Ground	Passenger's door courtesy switch position OFF(Door closed)	No continuity
2 – Ground	Passenger's door courtesy switch position ON(Door opened)	Continuity
5 – Ground	Passenger's door lock set to LOCK	No continuity
5 – Ground	Passenger's door lock set to UNLOCK	Continuity
6 – Ground	Driver's door lock set to LOCK	No continuity
6 – Ground	Driver's door lock set to UNLOCK	Continuity
9 – Ground	Driver's door lock switch position UNLOCK	Continuity
9 – Ground	Driver's door lock switch position LOCK	No continuity
10 – Ground	Door lock control switch position UNLOCK	No continuity
10 – Ground	Door lock control switch position LOCK	Continuity
11 – Ground	Door lock control switch position UNLOCK	Continuity
11 – Ground	Door lock control switch position LOCK	No continuity
12 – Ground	Door key lock and unlock switch position UNLOCK	No continuity
12 – Ground	Door key lock and unlock switch position LOCK	Continuity
13 – Ground	Door key lock and unlock switch position UNLOCK	Continuity
13 – Ground	Door key lock and unlock switch position LOCK	No continuity
14 – Ground	Driver's door courtesy switch position OFF (Door closed)	No continuity
14 – Ground	Driver's door courtesy switch position ON (Door opened)	Continuity
15 – Ground	Constant	Continuity
16 – Ground	Constant	Continuity
7 – Ground	Ignition switch positin LOCK	Continuity

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Fig. 3: Power Door Lock Control Relay Circuit Testing
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WIRING DIAGRAM

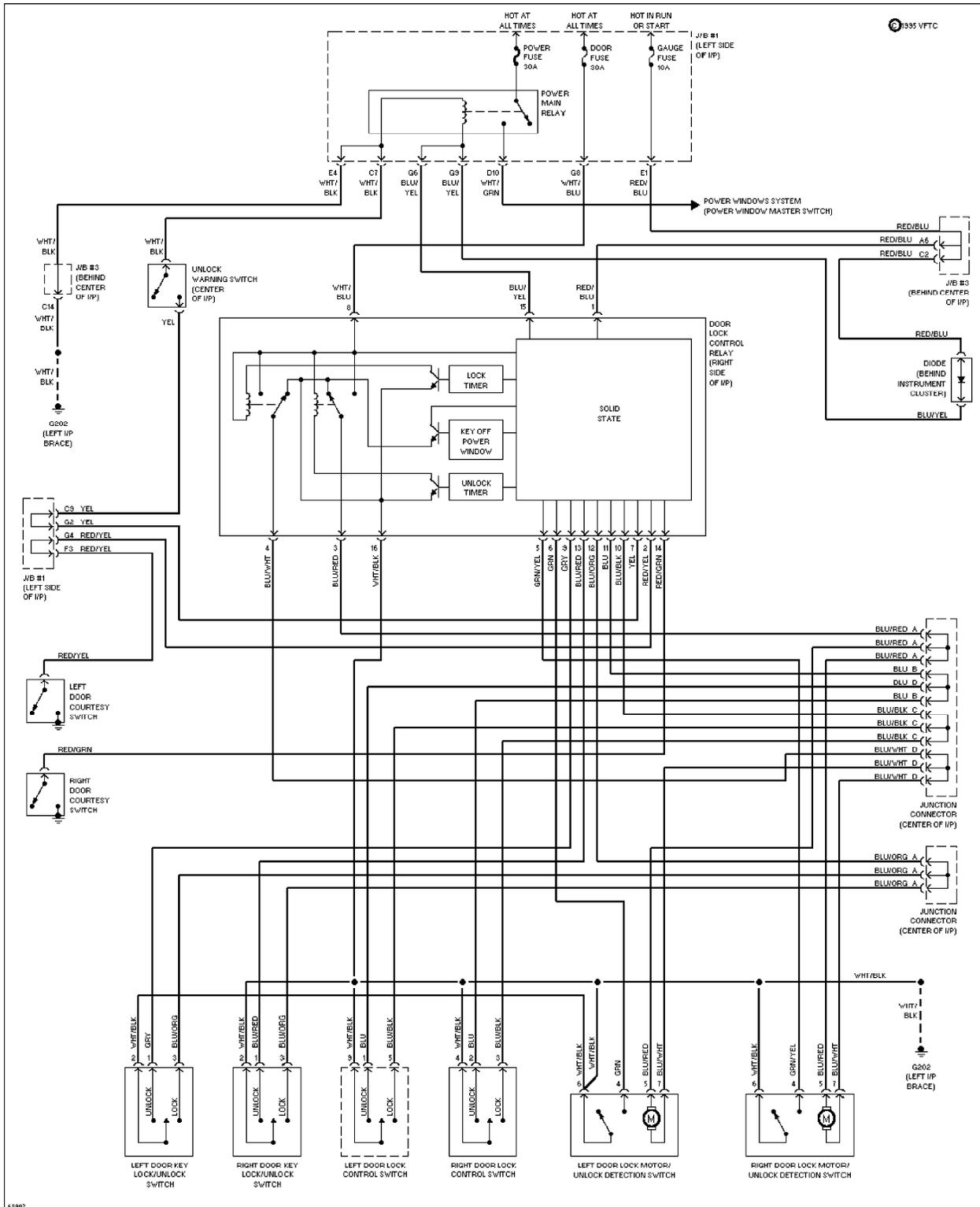


Fig. 4: Power Door Lock Wiring Diagram