

# DOOR LOCKS - POWER

1996 Toyota Supra

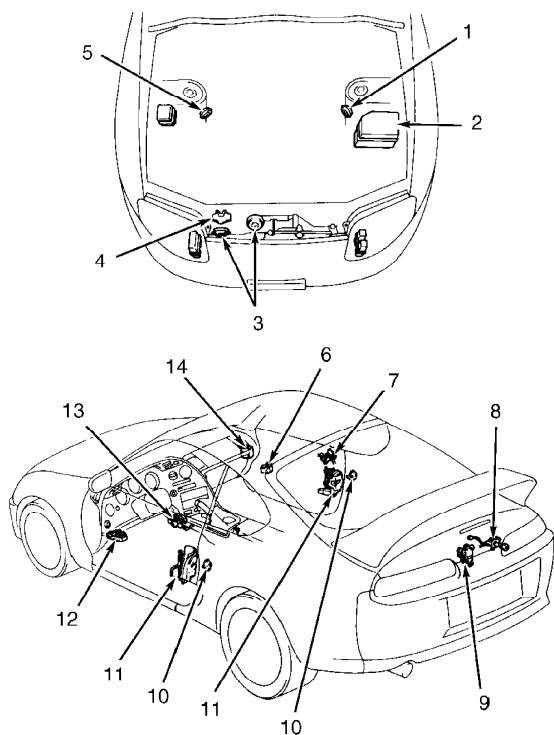
1995-96 ACCESSORIES & EQUIPMENT  
Toyota Power Door Locks - Cars

Supra

## DESCRIPTION & OPERATION

All doors can be locked or unlocked simultaneously using either front door. Turning driver's side door lock switch once will unlock driver's side door only, twice will unlock all doors. Door locks can be controlled by switches on driver's side or passenger's 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 the ignition switch. See Fig. 1.

NOTE: On Supra, equipped with anti-theft systems, ensure anti-theft system is operating properly. See ANTI-THEFT SYSTEM article.



- |   |  |
|---|--|
| 1. Anti-Theft Horn (2JZ-GE)                                   | 8. Rear Door Key Unlock Switch                               |
| 2. Relay Block No. 2<br>W/Headlight, Horn<br>& Starter Relays | 9. Trunk Area Light Switch                                   |
| 3. Standard Horns   | 10. Door Courtesy Switch                                     |
| 4. Engine Hood Courtesy Switch                                | 11. Door Lock Motor & Door<br>Unlock Detection Switch        |
| 5. Anti-Theft Horn (2JZ-GTE)                                  | 12. Door Lock Control Switch &<br>Power Window Master Switch |
| 6. Door Lock Control Switch                                   | 13. Door Key Lock & Unlock Switch                            |
| 7. Door Key Lock & Unlock Switch                              | 14. Anti-Theft & Door Lock ECU                               |

93G82616

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.
- \* Check harness and connectors.
- \* Check anti-theft and door lock control ECU.  
See ANTI-THEFT SYSTEM article.

#### 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.
- \* Check door lock motor operation.
- \* Check harness and connectors.
- \* Check anti-theft and door lock control ECU.  
See ANTI-THEFT SYSTEM article.

#### 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.
- \* Check door unlock detection switch.
- \* Check harness and connectors.
- \* Check for disconnected door lock linkage.
- \* Check anti-theft and door lock control ECU.  
See ANTI-THEFT SYSTEM article.

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

- \* Check door key lock and unlock switch.
- \* Check door unlock detection switch.
- \* Check harness and connectors.
- \* Check door lock control relay.  
See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING.
- \* Check anti-theft and door lock control ECU.  
See ANTI-THEFT SYSTEM article.

#### Key In Ignition Switch Warning, Does Not Operate

- \* Check key unlock warning switch.
- \* Check door unlock detection switch.
- \* Check door courtesy switch.
- \* Check door key lock and unlock switch.
- \* Check harness and connectors.
- \* Check door lock control relay.  
See POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING.
- \* Check anti-theft and door lock control ECU.  
See ANTI-THEFT SYSTEM article.

#### Only One Door Lock Does Not Operate

- \* Check door lock motor operation.
- \* Check door key lock and unlock switch.
- \* Check harness and connectors.
- \* Check anti-theft and door lock control ECU.

See ANTI-THEFT SYSTEM article.

## TESTING

### COMPONENT TESTING

NOTE: For connector terminal identification, see WIRING DIAGRAMS.

#### Door Courtesy Switch

Locate door courtesy switch next to power door lock assembly. Ensure continuity exists between switch terminals No. 2 and 3 with door opened. Ensure no continuity exists between switch terminals No. 2 and 3 with door closed. 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 3-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 3 with switch in UNLOCK position. If continuity is not as specified, replace switch and retest system.

#### Door Lock Manual Switch (Driver's Side Master Switch)

Locate master switch in driver's door. Disconnect master switch 10-pin connector. Ensure continuity exists between switch terminals No. 1 and 5, and between terminals No. 2 and 6 with switch in LOCK position. Ensure continuity exists between switch terminals No. 1 and 6, and between terminals No. 2 and 5 with switch in UNLOCK position. Ensure no continuity exists with switch in OFF position. If continuity is not as specified, replace switch and retest system.

#### Door Lock Manual Switch (Driver's Side)

1) Locate door lock manual switch in driver's door. Disconnect 10-pin connector. Ensure continuity exists between switch terminals No. 2 (Red/White wire) and No. 8 (White/Black wire) with switch in LOCK position. Ensure continuity exists between switch terminals No. 1 (Green/Red wire) and No. 8 with switch in UNLOCK position. If continuity is not as specified, replace switch and retest system.

2) Turn ignition on. Using voltmeter, backprobe connector and measure voltage between ground and indicated terminal. Refer to the DOOR LOCK MANUAL SWITCH VOLTAGE TEST table. If voltage is not as specified, replace switch and retest system.

#### Door Lock Manual Switch (Passenger's Side)

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

2) Using voltmeter, backprobe connector and measure voltage between ground and indicated terminal. See DOOR LOCK MANUAL SWITCH VOLTAGE TEST table. If voltage is not as specified, replace switch and retest system.

#### DOOR LOCK MANUAL SWITCH VOLTAGE TEST TABLE

Switch Position	Pin No. (Wire Color)	Volts
-----------------	----------------------	-------

#### Driver's Side

LOCK	.....	1 (GRN/RED)	.....	Battery
LOCK	.....	2 (RED/WHT)	.....	Less Than One
UNLOCK	.....	1 (GRN/RED)	.....	Less Than One
UNLOCK	.....	2 (RED/WHT)	.....	Battery
OFF	.....	1 (GRN/RED)	.....	Battery
OFF	.....	2 (RED/WHT)	.....	Battery

#### Passenger Side

LOCK	.....	2 (GRN/RED)	.....	Battery
LOCK	.....	3 (RED/WHT)	.....	Less Than One
UNLOCK	.....	2 (GRN/RED)	.....	Less Than One
UNLOCK	.....	3 (RED/WHT)	.....	Battery
OFF	.....	2 (GRN/RED)	.....	Battery
OFF	.....	3 (RED/WHT)	.....	Battery

---

#### Door Lock Motor Operation

Locate door lock motor and disconnect door lock motor 4-pin connector. Connect positive battery lead to terminal No. 2 (LF, Blue/Red wire) or terminal No. 4 (RF, Blue/Red wire) and negative battery lead to terminal No. 4 (LF, Blue/Yellow wire) or terminal No. 2 (RF, Blue/Yellow 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 appropriate door lock motor and door unlock detection switch, and disconnect 4-pin connector. With door unlock detection switch in UNLOCK position, ensure continuity exists between connector terminal No. 1 (LF Blue/White wire, RF Green/Black wire) and terminal No. 3 (White/Black wire). 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 key unlock warning switch. With key removed from switch, ensure no continuity exists between connector terminals. With key in switch, continuity should exist between connector terminals. If continuity is not as specified, 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 4-pin connector. Connect positive battery lead to Blue/Black wire terminal of door lock motor. Connect ammeter positive lead to Blue/Red wire terminal of door lock motor. Connect 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 Blue/Red wire terminal of door lock motor. Connect negative lead battery to Blue/Black wire terminal of door lock motor. Ensure door lock link moves to LOCK position. If operation is not as specified, replace door lock assembly and retest system.

#### Positive Temperature Coefficient (PTC) Thermistor Operation

1) Locate door lock motor in door. Disconnect door lock motor connector (4-pin without anti-theft, 6-pin with anti-theft). Connect positive battery lead to Blue/White wire terminal of door lock motor. Connect ammeter positive lead to Blue/Black wire terminal of door lock

motor, and connect ammeter negative lead to negative battery terminal. Ensure current changes from 3.2 amps to less than 0.5 amp within 10-60 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 Blue/Black wire terminal and negative battery lead to Blue/White terminal of door lock motor. 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 appropriate chart under POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING charts.

## POWER DOOR LOCK CONTROL RELAY CIRCUIT TESTING

NOTE: For Supra anti-theft and power door lock ECU circuit testing, see ANTI-THEFT SYSTEM article.

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.

NOTE: Turn ignition off and disconnect power door lock relay connector. Check connector wire harness side as shown in chart. If specified value is present, check door lock switch signal. See DOOR LOCK SWITCH SIGNAL under TESTING.

## WIRING DIAGRAMS

