

# ANTI-THEFT SYSTEM

## 1996 Toyota Supra

1995-96 ACCESSORIES & EQUIPMENT  
Toyota Anti-Theft Systems

Supra

### DESCRIPTION

**WARNING:** Deactivate air bag system before performing any service operation. For 1995 Supra, see AIR BAG RESTRAINT SYSTEM, For 1996 Supra, see AIR BAG RESTRAINT SYSTEM article. Do not apply electrical power to any component on steering column without first deactivating air bag system. Air bag may deploy.

Anti-Theft System (ATS) is designed to sound an alarm, flash exterior lights and interrupt starter circuit if any door, hood or trunk is opened, without using ignition key, or if battery is disconnected and reconnected. On models with power door locks, ATS will also lock any door previously not locked.

### OPERATION

Anti-Theft System (ATS) sets when ignition key is turned to LOCK position, passengers are removed and all doors, trunk and hood are closed and/or locked. There is a 30 second preparation time period while doors are locked before system is set. A SECURITY indicator illuminates during 30 second preparation time, and flashes when ATS is set.

Indicator light, located on instrument panel, will come on when all doors, trunk(s) and hood are closed. Indicator light flashes one second on and one second off when system is set. When system is set, a key must be used to open any door, trunk or hood. If indicator light is off, ATS is inactive and any door, trunk or hood may be opened without system activation.

One minute after activation, alarm will automatically stop and lights will stop flashing. Starter system interrupt will continue to be activated. If condition causing anti-theft system to activate is not corrected, alarm and flashing lights will again be activated.

Turning ignition from LOCK position to ACC position turns alarm and flashing lights off, but leaves starter system interrupt still activated. If condition causing anti-theft system to activate is corrected, system automatically resets until activated again.

ATS can be interrupted by opening trunk lid with key. While trunk lid is open, any door or hood may be opened. System will activate if battery is disconnected and reconnected. To reactivate system, close and lock doors and hood. Close trunk lid without key and system will reset 2 seconds later.

Anti-Theft System and starter interrupt will be canceled when either front door is unlocked using the ignition key. To locate components, see Fig. 1.

### TROUBLE SHOOTING

**WARNING:** Deactivate air bag system before performing any service operation. For 1995 Supra, see AIR BAG RESTRAINT SYSTEM, For 1996 Supra, see AIR BAG RESTRAINT SYSTEM article. Do not apply electrical power to any component on steering column without first deactivating air bag system. Air bag may



Problem	Inspect	Test
Anti-Theft System Can Not Be Set	Circuit Power Source	1
Indicator Light Does Not Come On, Even If System Triggered	Indicator Light Circuit	2
Anti-Theft System Does Not Operate When Front Doors Opened	Front Door Unlock Detection Switch Circuit Front Door Courtesy Switch Circuit	3 5
Anti-Theft System Does Not Operate When Rear Doors Opened	Rear Door Unlock Detect Switch Circuit Rear Door Courtesy Switch Circuit	3 5
Anti-Theft System Does Not Operate When Front Or Rear Trunk Lid Opened	Trunk Lid Courtesy Switch Circuit	5
Anti-Theft System Does Not Operate When Engine Hood Opened	Engine Hood Courtesy Switch Circuit	5
Anti-Theft System Does Not Cancel When Front Door Unlocked With Key	Front Door Key Lock & Unlock Switch Circuit	6
Anti-Theft System Does Not Cancel When Trunk Lid Unlocked With Key	Trunk Lid Key Unlock Switch Circuit	7
Anti-Theft System Does Not Cancel When Ignition Switch In ON Or ACC	Ignition Switch Circuit Key Unlock Warning Switch Circuit	8 9
Starter System Interrupt Does Not Operate, Even If System Triggered	Starter System Interrupt Circuit	10
Starter System Interrupt Does Not Cancel, Even If System Canceled	Starter System Interrupt Circuit	10
Anti-Theft Horn Does Not Blow, Even If System Triggered	Anti-Theft/Standard Horn Circuit	11
Anti-Theft Horn Blows, Even If System Not Set	Anti-Theft/Standard Horn Circuit	11
Headlights Do Not Flash, Even If System Triggered	Headlight Control Relay Circuit	12 (1)
Headlights Flash, Even If System Not Set	Headlight Control Relay Circuit	12 (1)
Taillights Do Not Flash, Even If System Triggered	Taillight Control Relay Circuit	14 (1)
Taillights Flash, Even If System Is Not Set	Taillight Control Relay Circuit	14 (1)

(1) - Before performing test, verify normal operation of headlights and taillights.

## SYSTEM TESTS

NOTE: Perform all tests using a volt-ohmmeter with a minimum 10-megohm input impedance.

## TEST 1

### Circuit Fuse

Turn ignition off. Ensure DOME fuse is okay. If DOME fuse is okay, go to next step. Replace fuse if needed. If fuse fails again, check for short in circuit between fuse and Anti-Theft System (ATS) ECU terminal. Repair short in harness or connectors as necessary.

### Circuit Power Source

Turn ignition off and disconnect ATS ECU connector. Ensure battery voltage exists between ground and harness side connector terminal. If battery voltage is present, go to next step. If battery voltage is not present, repair open in harness or connectors as necessary.

### Circuit Ground

Ensure continuity exists between ground and ATS ECU connector terminal. If continuity is not present, repair open in harness or connectors or ground connection as necessary.

## TEST 2

### Indicator Light Circuit

Verify ATS indicator light operation. See appropriate INDICATOR LIGHT under COMPONENT TESTS. Turn ignition off. Disconnect ATS ECU connector. Connect negative ohmmeter lead to ECU terminal B12 (White/Blue wire) and positive lead to ground. If continuity is not present, repair open in indicator light circuit harness or connectors. If continuity is present, replace ATS ECU and retest.

NOTE: Indicator light circuit includes Light Emitting Diode (LED). If circuit shows no continuity, reverse positive and negative leads and retest circuit.

## TEST 3

### Left Front Door Unlock Detection Switch Circuit

Verify door unlock detection switch operation. See appropriate DOOR UNLOCK DETECTION SWITCH under COMPONENT TESTS. Turn ignition off and disconnect ATS ECU connector. Close and unlock left front door. Ensure continuity exists between ground and ATS ECU connector terminal B15 (Blue/White wire). If continuity is present, go to next step. If continuity is not present, repair open in harness or connectors as necessary.

### Right Front Door Unlock Detection Switch Circuit

Verify door unlock detection switch operation. See appropriate DOOR UNLOCK DETECTION SWITCH under COMPONENT TESTS. Turn ignition off and disconnect ATS ECU connector. Close and unlock right front door. Ensure continuity exists between ground and ATS ECU connector terminal B21 (Green/Black wire). If continuity is not present, repair open in harness or connector as necessary. If continuity is present, replace ATS ECU and retest.

### Rear Door Unlock Detection Switch Circuit

Verify door unlock detection switch operation. See appropriate DOOR UNLOCK DETECTION SWITCH under COMPONENT TESTS. Turn ignition off and disconnect ATS ECU connector. Close and unlock rear door. Ensure continuity exists between ground and ATS ECU connector

terminal. If continuity is not present, repair open in harness or connector as necessary. If continuity is present, replace ATS ECU and retest.

## TEST 5

**NOTE:** Courtesy switch circuits include a diode. If circuit shows no continuity, reverse positive and negative leads and retest circuit.

### Driver's Door Courtesy Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Open driver's door and close all other doors and engine hood. Ensure continuity exists between ground and terminal B7 (Red/Black wire). If continuity is present, go to next step. If continuity is not present, repair open in harness or connectors as necessary.

### Passenger's Door Courtesy Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Open passenger's door and close all other doors and engine hood. Ensure continuity exists between ground and terminal B19 (Red/Blue wire). If continuity is present, go to next step. If continuity is not present, repair open in harness or connectors as necessary.

### Rear Door Courtesy Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Open one rear door and close all other doors and engine hood. Ensure continuity exists between ground and terminal. If continuity is present, go to next step. If continuity is not present, repair open in harness or connectors as necessary.

### Engine Hood Courtesy Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Open engine hood and close all other doors. Ensure continuity exists between ground and terminal B14 (Violet/Red wire). If continuity is present, go to next step. If continuity is not present, repair harness or connectors as necessary.

### Trunk Lid Courtesy Switch Circuits

Turn ignition off and disconnect ATS ECU connector. Open trunk lid and close all other doors and engine hood. Ensure continuity exists between ground and terminal. If continuity is not present, repair open in harness or connectors as necessary. If continuity is present in all courtesy switch circuits, replace ATS ECU and retest.

## TEST 6

### Driver's & Passenger's Door Key Lock Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Lock driver's or passenger's door with key. Ensure continuity exists between ground and ATS ECU connector terminal B22 (Green/Yellow wire). If continuity is not present, repair open in lock switch circuit. If continuity is present, unlock driver's or passenger's door and ensure continuity is not present. If continuity is not present, go to next step. If continuity is present, repair short in lock switch circuit.

### Driver's Door Key Unlock Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Unlock driver's door with key. Ensure continuity exists between ground and ATS ECU connector terminal B6 (Green wire). If continuity is not present, repair open in unlock switch circuit. If continuity is present, lock driver's door and ensure continuity is not present. If continuity is present, repair short in unlock switch circuit. If

continuity is not present, go to next step.

#### Passenger's Door Key Unlock Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Unlock passenger's door with key. Ensure continuity exists between ground and ATS ECU connector terminal B16 (White wire). If continuity is not present, repair open in unlock switch circuit. If continuity is present, lock passenger's door and ensure continuity is not present. If continuity is present, repair short in unlock switch circuit. If continuity is not present, replace ATS ECU and retest.

NOTE: Check slide door circuit with slide door closed.

### TEST 7

#### Trunk Lid Key Unlock Switch Circuit

Turn ignition off and disconnect ATS ECU connector. With key not turned, ensure no continuity exists between ECU terminal B9 (Blue wire). If continuity is present, repair short in unlock switch circuit. If continuity is not present, turn key, unlock trunk lid and ensure continuity is present. If continuity is not present, repair open in unlock switch circuit. If continuity is present, replace ATS ECU and retest.

### TEST 8

#### Ignition Switch Circuit Fuse

Turn ignition off. Ensure RAD/CIG, CIG or ECU/IG fuse is okay. If RAD/CIG, CIG or ECU/IG fuse is okay, go to next step. Replace fuse if needed. If fuse fails again, check for short in wire harness between fuse and ATS ECU terminal A8 (Blue/Red wire). Repair short in harness or connectors as necessary.

#### Ignition Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Turn ignition to ACC or ON position. Ensure battery voltage exists between ground and ECU connector terminal A8 (Blue/Red wire). If battery voltage is not present, repair open in harness or connectors as necessary. If battery voltage is present, replace ATS ECU and retest.

### TEST 9

#### Key Unlock Warning Switch Circuit

Turn ignition off and disconnect ATS ECU connector. Insert ignition key into ignition lock cylinder. Ensure continuity exists between ground and ECU connector terminal B20 (Yellow wire). If continuity is not present, repair open in unlock warning switch circuit. If continuity is present, remove key and ensure continuity is not present. If continuity is present, repair short in unlock warning switch circuit. If continuity is not present, replace ATS ECU and retest.

### TEST 10

NOTE: Turn driver's door key lock to UNLOCK position with key and verify starter operation.

#### Starter Interrupt System Circuit

Turn ignition off and disconnect ATS ECU connector. Unlock either driver's or passenger's door using key. Put shift lever into Neutral or Park position (A/T) or depress clutch pedal (M/T). Turn ignition to START position. Ensure battery voltage exists between

ground and ECU terminal B25 (Blue/Orange wire). If battery voltage is not present, repair short or open in starter relay circuit. If battery voltage is present, replace ATS ECU and retest.

## TEST 11

### Anti-Theft Horn Circuit

Turn ignition off and disconnect ATS ECU connector. Ensure battery voltage exists between ground and ATS ECU connector terminal B11 (White/Blue wire). If battery voltage is not present, check HAZ/HORN fuse. If HAZ/HORN fuse is okay, go to next step.

### Anti-Theft Horn Operation

Turn ignition off. Locate anti-theft horn and disconnect horn 2-pin connector. Connect battery positive lead to one terminal. Connect battery negative lead to other terminal. If anti-theft horn does not blow, replace horn. If anti-theft horn is okay, repair open or short in harness or connectors between HAZ/HORN fuse and ATS ECU as necessary. If harness and connectors are okay, replace ECU and retest.

### Standard Horn Circuit

Turn ignition off and disconnect ATS ECU connector. Ensure battery voltage exists between ground and ATS ECU connector terminal B24 (Blue/Red wire). If battery voltage is not present, ensure continuity exists between standard horn relay terminals No. 1 and No. 2. If standard horn relay is okay, repair open or short in harness or connectors between standard horn relay and ATS ECU as necessary. If battery voltage is present, replace ATS ECU and retest system.

NOTE: Before performing TESTS 12, 13 or 14, verify normal operation of headlights and taillights.

## TEST 12

### Headlight Control Relay Circuit

Turn ignition off and disconnect ATS ECU connector. Ensure battery voltage exists between ground and ATS ECU connector terminal B10 (Red/Yellow wire). If battery voltage is not present, repair open or short in harness or connectors between headlight control relay and ATS ECU. If battery voltage is present, replace ATS ECU and retest system.

## TEST 14

### Taillight Control Relay Circuit

Turn ignition off and disconnect ATS ECU connector. Ensure battery voltage exists between ground and ECU terminal B23 (Green/White wire). If battery voltage is not present, repair open or short in taillight control relay circuit. If battery voltage is present, replace ATS ECU and retest system.

## COMPONENT TESTS

### Door Unlock Detection Switch

Remove door trim and door lock assembly. Locate and disconnect 4-pin door lock motor and unlock detection switch connector. Check for continuity between 4-pin connector terminals No. 1 (left side is Blue/White wire, right side is Green/Black wire) and No. 3 (White/Black wire). There should be continuity when door lock is in unlocked position. There should be no continuity when door lock is in locked position. If continuity is not as specified, replace door unlock detection switch. If continuity is as specified, inspect the

harness and connectors between door unlock detection switch and ATS ECU. See TESTING ANTI-THEFT CIRCUITS.

#### Indicator Light

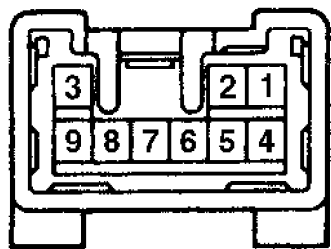
Remove instrument cluster finish panel. Disconnect left side 10-pin telltale light connector. Connect battery positive lead to terminal No. 10 (White/Blue wire) and negative battery lead to terminal No. 9 (White/Black wire). If indicator light does not come on, replace light. If indicator light comes on, inspect wire harness and connectors between indicator light and ATS ECU. See TEST 2 under SYSTEM TESTS. Repair harness or connectors as necessary. If harness and connectors are okay, replace ATS ECU.

NOTE: For other anti-theft or door lock components, see appropriate DOOR LOCKS - POWER article.

### PIN VOLTAGE CHARTS

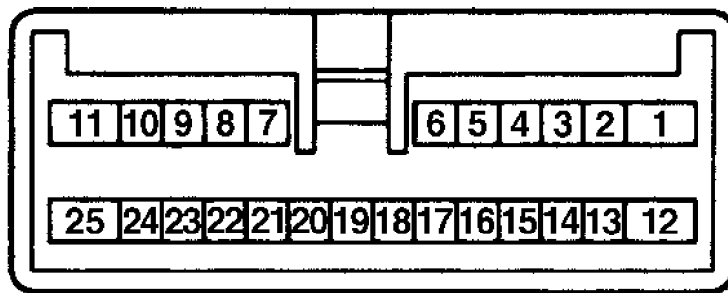
#### TESTING ANTI-THEFT ECU HARNESS & CONNECTOR & CIRCUIT VOLTAGE

NOTE: Test between specified terminals with ignition off or in specified position and anti-theft system ECU 9-pin and 25-pin connector connected.



"A"

HARNESS SIDE



"B"

HARNESS SIDE

96H06147

Fig. 2: Anti-Theft ECU Connector  
Courtesy of Toyota Motor Sales, U.S.A., Inc.

#### TESTING ANTI-THEFT ECU HARNESS & CONNECTOR CIRCUIT TABLE

TEST LEAD (RED)	PIN NO.	COMPONENT DESCRIPTION	(1) SPECIFIED VALUE		PIN NO.	COMMON LEAD (BLACK)
			ON	OFF		
BLU/RED	A2	Ignition Switch In Off Position	N/A	<50Ω	A3	BLU/RED
LT. GRN	B4	Luggage Compartment Courtesy Switch (On - Door Open)	<1Ω	≥1MΩ	A4	WHT/BLK
RED/WHT	B5	Door Lock Control Switch (ON - LOCK Position)	<1Ω	≥1MΩ	A4	WHT/BLK
GRN	B6	Door Key Lock & Unlock Switch (On - UNLOCK)	<1Ω	≥1MΩ	A4	WHT/BLK

		Position)				
RED/BLK	B7	Driver Door Open Detection Switch (ON - Door Open)	<1Ω	≥1MΩ	A4	WHT/BLK
GRN/RED	B8	Door Lock Control Switch (ON - UNLOCK Position)	<1Ω	≥1MΩ	A4	WHT/BLK
BLU	B9	Luggage Compartment Door Key Lock & Unlock Switch	<1Ω	≥1MΩ	A4	WHT/BLK
WHT/BLU	B12	Anti-Theft Indicator Light Ground	<270Ω	N/A	N/A	GROUND
VIO/RED	B14	Engine Hood Courtesy Switch (ON - Hood Open)	<1Ω	≥1MΩ	A4	WHT/BLK
BLU/WHT	B15	Door Unlock Detection Switch (ON - Door Open)	<1Ω	≥1MΩ	A4	WHT/BLK
WHT	B16	Door Key Lock & Unlock Switch (ON - UNLOCK Position)	<1Ω	≥1MΩ	A4	WHT/BLK
RED/BLU	B19	Passenger Door Open Detection Switch (ON - Door Open)	<1Ω	≥1MΩ	A4	WHT/BLK
YEL	B20	Unlock Warning Switch (ON - ON Position)	<1Ω	≥1MΩ	A4	WHT/BLK
GRN/BLK	B21	Door Unlock Detection Switch (ON - Door Open)	<1Ω	≥1MΩ	A4	WHT/BLK
GRN/YEL	B22	Door Key Lock & Unlock Switch (ON - LOCK Position)	<1Ω	≥1MΩ	A4	WHT/BLK
(1) - Symbol definitions: < = Less than > = Greater than ≥ = Equal to or greater than Ω = Ohms MΩ = Mega (million) Ohms N/A = Not applicable						

TESTING ANTI-THEFT ECU CIRCUIT VOLTAGE TABLE

TEST LEAD (RED)	PIN NO.	COMPONENT DESCRIPTION	(1) SPECIFIED VALUE		PIN NO.	COMMON LEAD (BLACK)
			ON	OFF		
BLU/WHT	A9	30-Amp DOOR Fuse Power Supply	B+	B+	N/A	GROUND
YEL	A6	Ignition Switch In ON Position	B+	N/A	N/A	GROUND
BLK/RED	A7	Ignition Switch In ON Position	B+	N/A	N/A	GROUND

BLU/RED	A8	Ignition Switch In ACC Position	B+	N/A	A4	WHT/BLK
RED	B1	7.5-Amp DOME Fuse Power Supply	B+	B+	N/A	GROUND
RED/YEL	B10	Light Control Switch Other Than HEAD Position	B+	N/A	A4	WHT/BLK
WHT/BLU	B11	Anti-Theft Horn Circuit Power Supply	B+	B+	A4	WHT/BLK
GRN/WHT	B23	Light Control Switch In TAIL Position	B+	N/A	A4	WHT/BLK
BLU/RED	B24	Horn Switch In OFF Position	B+	N/A	A4	WHT/BLK
BLU/ORG	B25	Ignition Switch In START Position A/T, Park/Neutral Switch In "N" Or "P" Position M/T, Clutch Pedal Fully Depressed	B+	N/A	N/A	GROUND

## WIRING DIAGRAMS

