

WIPER/WASHER SYSTEM

1993 Toyota Celica

1993 ACCESSORIES/SAFETY EQUIPMENT
Toyota Wiper/Washer Systems

Camry, Celica, Corolla, Land Cruiser, MR2, Paseo, Pickup,
Previa, Supra, Tercel, T100, 4Runner

WARNING: Camry, Celica, Corolla, MR2, Paseo, Previa, Supra and Tercel are equipped with a driver's side air bag. Use extreme caution while servicing components on steering column. Ensure ignition switch is in LOCK position and negative battery cable is disconnected for at least one minute before starting service. DO NOT apply electrical power to any component on steering column without disconnecting air bag control unit. Information labels are attached to air bag components. Follow all notices on labels. Use only DVOM with minimum of 10-k/ohms impedance to check ANY circuit.

DESCRIPTION & OPERATION

All models are equipped with 2-speed wiper motors. An intermittent wiper system is optional. Front wiper motors are protected by an internal circuit breaker. Celica, Corolla, Land Cruiser, Previa, Supra and 4Runner are equipped with rear wipers.

TESTING

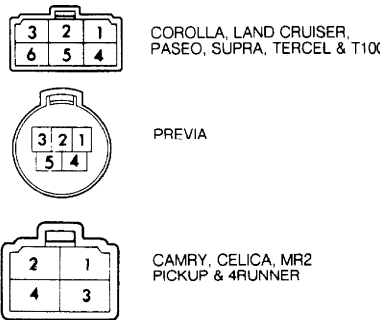
FRONT WIPER MOTOR TEST

Camry, Celica, MR2, Pickup & 4Runner

1) Using 12-volt battery, connect jumper wire from positive battery terminal to wiper motor terminal No. 2. See Fig. 1. Connect another jumper wire between negative battery terminal and wiper motor body or motor ground wire location at mounting bolt hole. Motor should operate at low speed.

2) Remove jumper wire from terminal No. 2. Reconnect jumper wire to wiper motor terminal No. 1. Motor should operate at high speed. Remove jumper wire from terminal No. 1 and reconnect jumper wire to wiper motor terminal No. 2. With motor running at low speed, stop motor at any position except PARK position by disconnecting jumper wire from terminal No. 2. Install another jumper wire between wiper motor terminals No. 2 and 3.

3) Ensure motor body ground is still connected to negative battery terminal. Connect positive battery terminal jumper wire to wiper motor terminal No. 4. Motor should start running and then stop at PARK position. Replace motor if operation is not as described.



93F84660

Fig. 1: Front Wiper Motor Terminal ID
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

All Other Models

1) Using 12-volt battery, connect jumper wire from positive battery terminal to wiper motor terminal No. 3. See Fig. 1. Connect another jumper wire between negative battery terminal and wiper motor terminal No. 1. Motor should operate at low speed.

2) Remove jumper wire from terminal No. 3. Reconnect positive battery terminal jumper wire to wiper motor terminal No. 2. Motor should operate at high speed.

3) Remove jumper wire from terminal No. 2 and reconnect jumper wire to wiper motor terminal No. 3. With motor running at low speed, stop motor at any position except PARK position by disconnecting jumper wire from terminal No. 3. Install another jumper wire between wiper motor terminals No. 3 and 4 on Previa, or terminals No. 3 and 5 on all other models.

4) Ensure motor terminal No. 1 (ground terminal) is still connected to battery negative terminal. Connect positive battery terminal jumper wire to wiper motor terminal No. 5 on Previa, or terminal No. 6 on all other models. Motor should start running and then stop at the PARK position. Replace motor if operation is not as described.

FRONT WIPER RELAY TEST

Previa

1) Ensure wiper motor operation is correct. See FRONT WIPER MOTOR TEST. If motor operates correctly when tested separately from switch, check wiper switch and front wiper relay. See FRONT WIPER SWITCH TEST. For front relay location, see Fig. 2.

2) Check front wiper relay. Using an ohmmeter, check continuity between relay terminals No. 1 and 4. See Fig. 3. No continuity should exist. Connect ohmmeter leads to relay terminals No. 1 and 3. Continuity should exist. If continuity is not as described, replace relay.

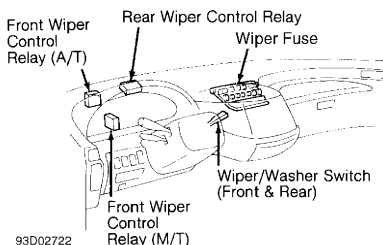
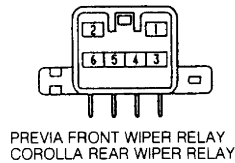


Fig. 2: Locating Wiper Relays (Previa)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



93G84661

Fig. 3: Front & Rear Wiper Relay Terminal ID
Courtesy of Toyota Motor Sales, U.S.A., Inc.

FRONT WIPER SWITCH TEST

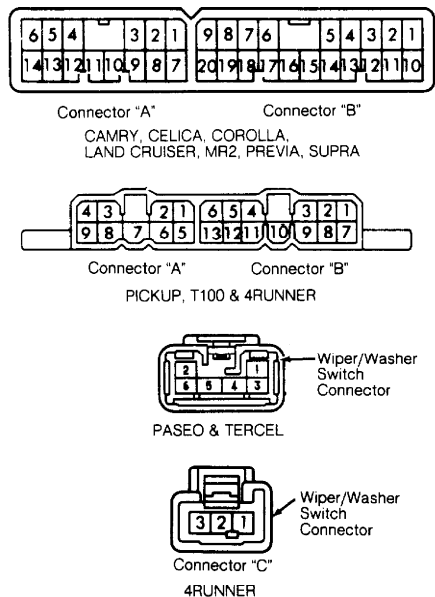
With wiper switch in specified position, ensure continuity exists between terminals listed. See WIPER SWITCH CONTINUITY TEST table. See Fig. 4. Replace wiper switch assembly if continuity is not as specified.

WIPER SWITCH CONTINUITY TEST TABLE

Switch Position	(1) Terminals
Camry, Celica & MR2	
Off (Normal)	B4 & B7
Off (Mist)	B7 & B18
Intermittent (Normal)	B4 & B7
Intermittent (Mist)	B7 & B18
Low (Normal)	B7 & B18
Low (Mist)	B7 & B18
High (Normal)	B13 & B18
High (Mist)	B7, B13 & B18
Corolla	
Mist	B7 & B18
Off	B4 & B7
Intermittent	B4 & B7
Low	B7 & B18
High	B13 & B18
Land Cruiser	
Off	B4 & B7
Intermittent	B4 & B7
Low	B7 & B18
High	B13 & B18
Paseo & Tercel	
Intermittent	1 & 6
Mist	1 & 5
Off	1 & 6
Low	1 & 5
High	2 & 5
Pickup, T100 & 4Runner	
Intermittent	A7 & A8
Mist	A4 & A8
Off	A7 & A8
Low	A4 & A8

High	.....	A4 & A9
Previa		
Off	.....	B4 & B7
Intermittent	.....	B4 & B7; B12 & B16
Low	.....	B7 & B18
High	.....	B13 & B18
Supra		
Off	.....	B4 & B7
Off & Mist	.....	B7 & B18
Intermittent	.....	B4 & B7
Low	.....	B7 & B18
Low & Mist	.....	B7 & B18
Intermittent & Mist	.....	B7 & B18
High	.....	B13 & B18
High & Mist	.....	B7 & B13; B13 & B18

(1) - See Fig. 4.



93H84662

Fig. 4: Combination Switch Connectors For Wiper ID
Courtesy of Toyota Motor Sales, U.S.A., Inc.

FRONT WASHER SWITCH TEST

With washer switch in specified position, ensure continuity exists between terminals listed. See WASHER SWITCH CONTINUITY TEST table. See Fig. 4. Replace complete wiper switch assembly if continuity is not as specified.

WASHER SWITCH CONTINUITY TEST TABLE

Switch Position	(1) Terminals	Continuity
Paseo & Tercel		
Off	1, 2, 3, 4, 5 & 6	No
On	3 & 4	Yes
Pickup, T100 & 4Runner		

Off	.....	A1 & A2	.....	No
On	.....	A1 & A2	.....	Yes
All Others				
Off	.....	B8 & B16	.....	No
On	.....	B8 & B16	.....	Yes

(1) - See Fig. 4.

REAR WIPER MOTOR TEST

Celica & Supra

1) Disconnect wiring connector from wiper motor. Using 12-volt battery, connect jumper wire from positive battery terminal to wiper motor terminal No. 1. See Fig. 5. Using another jumper wire, connect wiper motor terminal No. 3 and motor body to negative battery terminal. Motor should operate.

2) To check automatic PARK operation, with motor running, motor should stop by disconnecting jumper wire from terminal No. 3. To check intermittent operation, connect jumper wire from negative battery terminal to wiper motor terminal No. 2. Motor should operate intermittently for about 9-15 seconds. Replace motor and relay as a complete assembly if operation is not as described.

Corolla

Disconnect wiring connector from wiper motor. Using 12-volt battery, connect jumper wire from positive battery terminal to wiper motor terminal No. 3. See Fig. 5. Using another jumper wire, connect wiper motor body (ground) to negative battery terminal. Motor should operate. Replace motor if operation is not as described.

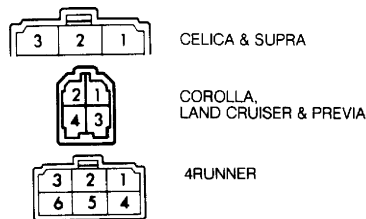
Land Cruiser & Previa

1) Disconnect wiring connector from wiper motor. Using 12-volt battery, connect jumper wire from positive battery terminal to wiper motor terminal No. 3. See Fig. 5. Using another jumper wire, connect wiper motor terminal No. 2 to negative battery terminal. Motor should operate.

2) To check automatic PARK operation, with motor running, stop motor operation anywhere except PARK position by removing power from terminal No. 3. Install another jumper wire between terminals No. 3 and 4. Connect jumper wire from positive battery terminal to wiper motor terminal No. 1. Ensure motor operates and stops at PARK position. Replace motor if operation is not as described.

4Runner

Disconnect wiring connector from wiper motor. Using 12-volt battery, connect jumper wire from negative battery terminal to wiper motor terminal No. 3. See Fig. 5. Using another jumper wire, connect wiper motor terminal No. 1 to positive battery terminal. Motor should operate in clockwise direction. Reverse jumper wires. Motor should operate in counterclockwise direction. Replace motor if operation is not as described.



93184663

Fig. 5: Rear Wiper Motor Terminal ID
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

REAR WIPER RELAY TEST

NOTE: Testing information is not available from manufacturer for all models. For relay locations, see REAR WIPER RELAY LOCATION table.

Corolla

Using an ohmmeter, check continuity between relay terminals No. 3 and 4. See Fig. 3. No continuity should exist. Connect ohmmeter leads to relay terminals No. 4 and 5. Continuity should exist. If continuity is not as described, replace relay.

Land Cruiser & Previa

Using an ohmmeter, check continuity between relay terminals No. 1 and 3. See Fig. 3. No continuity should exist. Connect ohmmeter leads to relay terminals No. 2 and 3. Continuity should exist. If continuity is not as described, replace relay.

REAR WIPER RELAY LOCATION TABLE

Model	Location
Celica & Supra	Inside Back Door At Rear Wiper Motor
Corolla	Inside Back Door, To Right Of Motor
Land Cruiser	Inside Back Door, To Left Of Motor
Previa	Behind Center Of Instrument Cluster
4Runner	Behind Interior Left Rear Side Panel, Near Rear Door

REAR WIPER SWITCH TEST

With wiper switch in specified position, ensure continuity exists between terminals listed. See REAR WIPER/WASHER SWITCH CONTINUITY TEST table. See Fig. 4. Replace complete wiper switch if continuity is not as specified.

REAR WIPER/WASHER SWITCH CONTINUITY TEST TABLE

Switch Position	Terminals	Continuity
Celica, Corolla, Land Cruiser		
Supra & Previa (1)		
Off	B1, B2, B10, B16	No
Intermittent	B10 & B16	Yes
On	B1 & B16	Yes
Wash		

W/Wiper On	B2 & B16	Yes
W/Intermittent On ...	B1, B2 & B16	Yes
4Runner (1)		
Off	A1, C1, C2 & C3	No
Intermittent	A1 & C2	Yes
On	A1 & C1	Yes
Wash W/Wiper On	A1, C1 & C3	Yes
Wash Only	A1 & C3	Yes

(1) - See Fig. 4.

REMOVAL & INSTALLATION

WARNING: Camry, Celica, Corolla, MR2, Paseo, Previa, Supra and Tercel are equipped with a driver's side air bag. Use extreme caution while servicing components on steering column. Ensure ignition switch is in LOCK position and negative battery cable is disconnected for at least one minute before starting service. DO NOT apply electrical power to any component on steering column without disconnecting air bag control unit. Information labels are attached to air bag components. Follow all notices on labels. Use only DVOM with minimum of 10-k/ohms impedance to check any circuit.

FRONT WIPER SWITCH

NOTE: Wiper switch is component of combination switch, mounted to steering column. For further information and/or illustrations on removal procedure, see COMBINATION SWITCH under REMOVAL & INSTALLATION in appropriate STEERING COLUMN SWITCHES article listed below in the ACCESSORIES/SAFETY EQUIPMENT section.

- * STEERING COLUMN SWITCHES (for Camry).
- * STEERING COLUMN SWITCHES (for Celica).
- * STEERING COLUMN SWITCHES (for Corolla).
- * STEERING COLUMN SWITCHES (for Land Cruiser).
- * STEERING COLUMN SWITCHES (for MR2).
- * STEERING COLUMN SWITCHES (for Paseo).
- * STEERING COLUMN SWITCHES (for Pickup).
- * STEERING COLUMN SWITCHES (for Previa).
- * STEERING COLUMN SWITCHES (for Supra).
- * STEERING COLUMN SWITCHES (for T100).
- * STEERING COLUMN SWITCHES (for Tercel).
- * STEERING COLUMN SWITCHES (for 4Runner).

Removal & Installation (All Models)

1) Disconnect negative battery cable. To access combination switch connector, remove instrument panel lower finish panel under steering column. See INSTRUMENT CLUSTER under REMOVAL & INSTALLATION in appropriate INSTRUMENT PANELS article listed below in the ACCESSORIES/SAFETY EQUIPMENT section. Remove steering column upper and lower covers. Remove steering wheel. See STEERING WHEEL under REMOVAL & INSTALLATION.

- * INSTRUMENT PANEL (for Camry).
- * INSTRUMENT PANEL (for Celica).
- * INSTRUMENT PANEL (for Corolla).
- * INSTRUMENT PANEL (for Land Cruiser).
- * INSTRUMENT PANEL (for MR2).
- * INSTRUMENT PANEL (for Paseo).

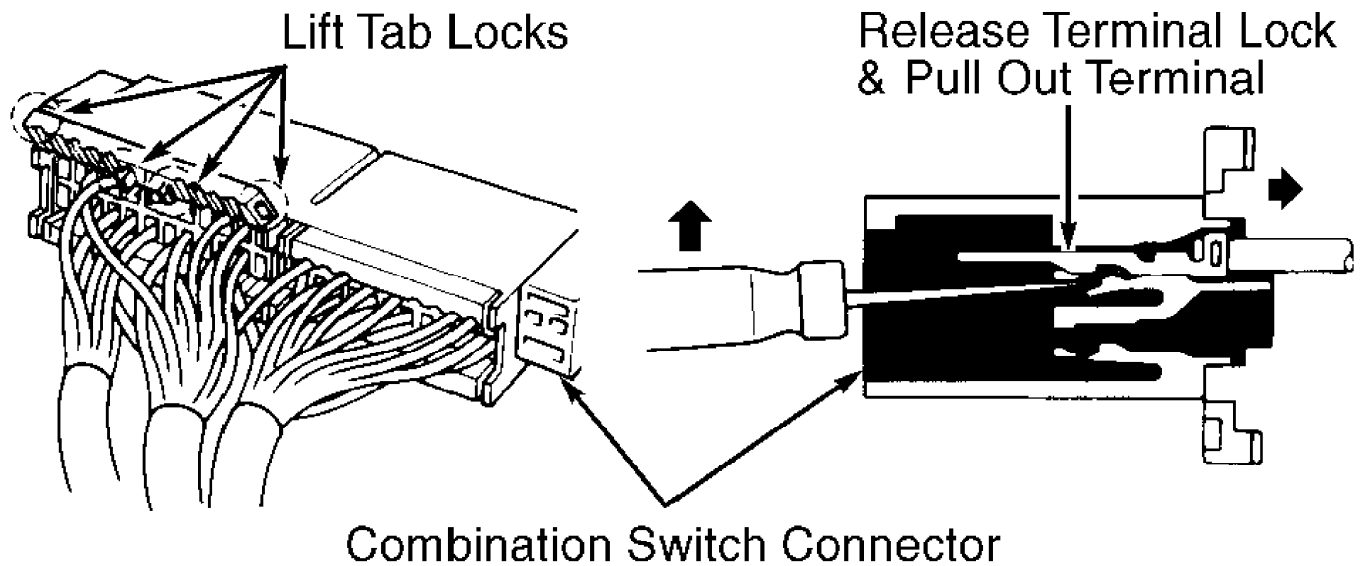
- * INSTRUMENT PANEL (for Pickup).
- * INSTRUMENT PANEL (for Previa).
- * INSTRUMENT PANEL (for Supra).
- * INSTRUMENT PANEL (for T100).
- * INSTRUMENT PANEL (for Tercel).
- * INSTRUMENT PANEL (for 4Runner).

2) Locate wiper/washer switch wire terminal positions installed into combination switch harness connector. See Fig. 4. Lift tab locks on combination switch connector. See Fig. 6.

3) Using miniature screwdriver, release wire terminal securing tab inside connector. See Fig. 6. Pull wire(s) from connector and through harness jacket tubing. Remove wiper switch retaining screws from rear of combination switch body and remove switch. See Fig. 7.

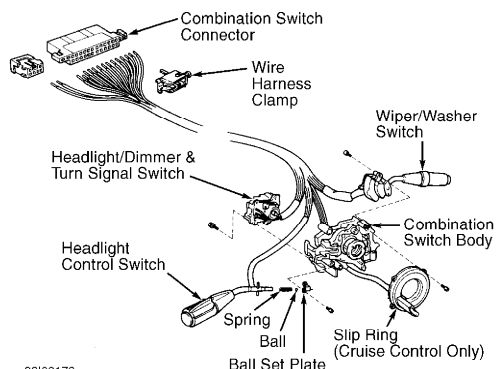
Installation

To install, reverse removal procedure. When installing wiper switch wire terminals to harness connector, push inward on wire terminal until terminal clicks into place.



93A02179

Fig. 6: Releasing Wire Terminal Inside Combination Connector
Courtesy of Toyota Motor Sales, U.S.A., Inc.



93102178

Fig. 7: Combination Switch Component ID (Typical)
Courtesy of Toyota Motor Sales, U.S.A., Inc.

REAR WIPER SWITCH

Removal & Installation (All Models)

Switch is integral part of wiper switch mounted to combination switch on steering column. See FRONT WIPER SWITCH under REMOVAL & INSTALLATION.

STEERING WHEEL

Removal (Without Air Bag)

1) On rear of steering wheel, locate and remove retaining screw securing horn pad. Remove horn pad enough to disconnect horn electrical connector(s).

2) Remove steering wheel lock nut and washer. Make alignment mark on steering shaft and steering wheel for installation reference. Install suitable steering wheel puller and pull steering wheel from shaft.

Installation

Align reference marks on steering shaft and steering wheel. Tighten steering wheel lock nut to 25 ft. lbs. (34 N.m). Install horn pad.

Removal (With Air Bag)

1) Ensure front wheels are in straight ahead position. Place ignition switch in LOCK position and remove key. Disconnect negative battery cable. Remove 2 screw covers from outer sides of steering wheel. Using Torx Wrench (T30), loosen 4 air bag pad retaining screws until screw head is snug against screw case. See Fig. 8.

2) Carefully pull air bag pad away from steering wheel enough to unlock and disconnect air bag electrical connector. DO NOT pull on electrical connector or wiring. Store air bag pad aside with pad facing upward.

3) Remove steering wheel lock nut and washer from steering shaft. Make alignment mark on steering shaft and steering wheel for installation reference. Using appropriate steering wheel puller, pull steering wheel from shaft while guiding spiral cable wire through steering wheel opening.

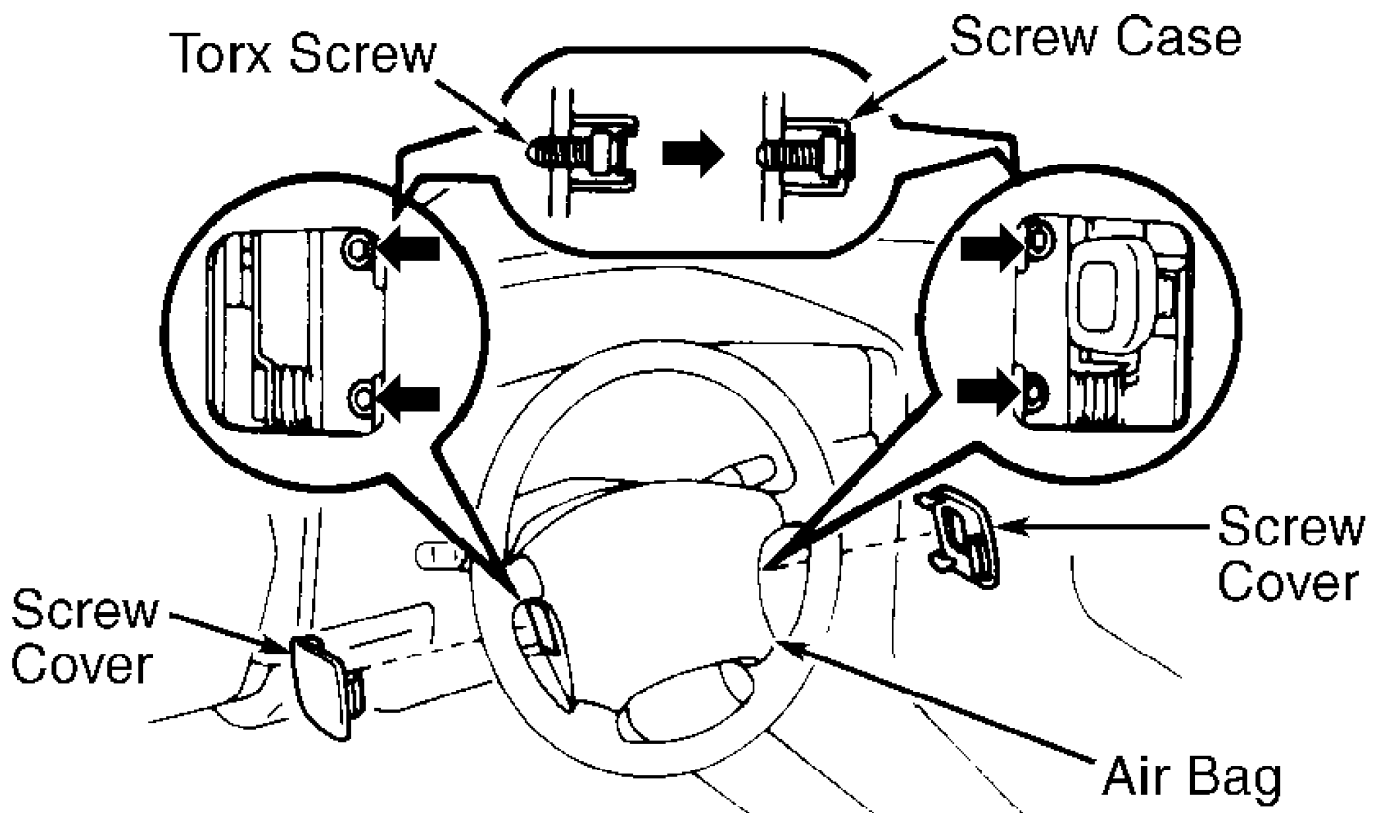
Installation

1) Ensure front wheels are in straight ahead position. Connect and install spiral cable to combination switch. Turn spiral cable counterclockwise by hand until it is hard to turn. Turn spiral cable clockwise about 2 1/2 turns and align Red mark at bottom with opening.

2) Guide spiral cable through steering wheel opening while installing steering wheel to shaft. Align reference marks on steering shaft and steering wheel. Tighten steering wheel lock nut to 25 ft. lbs. (34 N.m).

3) Connect air bag electrical connector and snap down connector lock. Before installing air bag pad, ensure Torx screws are retracted and snug against screw case. See Fig. 8.

4) Install air bag pad to steering wheel ensuring all wiring is NOT pinched and DOES NOT interfere with moving parts. Tighten 4 Torx screws to 65 INCH lbs. (7.4 N.m). Install screw covers. Connect negative battery cable.



91G03959

Fig. 8: Removing Air Bag From Steering Wheel
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

WIRING DIAGRAMS

Proceed to appropriate WIRING DIAGRAMS article listed below in WIRING DIAGRAMS section.

- * WIRING DIAGRAMS (for 4Runner).
- * WIRING DIAGRAMS (for Camry).
- * WIRING DIAGRAMS (for Celica).
- * WIRING DIAGRAMS (for Corolla).
- * WIRING DIAGRAMS (for Land Cruiser).
- * WIRING DIAGRAMS (for MR2).
- * WIRING DIAGRAMS (for Paseo).
- * WIRING DIAGRAMS (for Pickup).
- * WIRING DIAGRAMS (for Previa).
- * WIRING DIAGRAMS (for Supra).
- * WIRING DIAGRAMS (for T100).
- * WIRING DIAGRAMS (for Tercel).