

WIPER/WASHER SYSTEM

1996 Toyota Supra

1995-96 ACCESSORIES & EQUIPMENT
Toyota Wiper/Washer Systems

Supra

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.

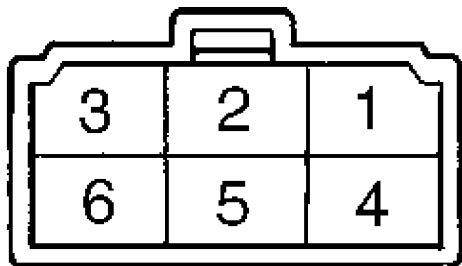
DESCRIPTION & OPERATION

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. Supra is equipped with rear wipers.

TESTING

FRONT WIPER MOTOR TEST

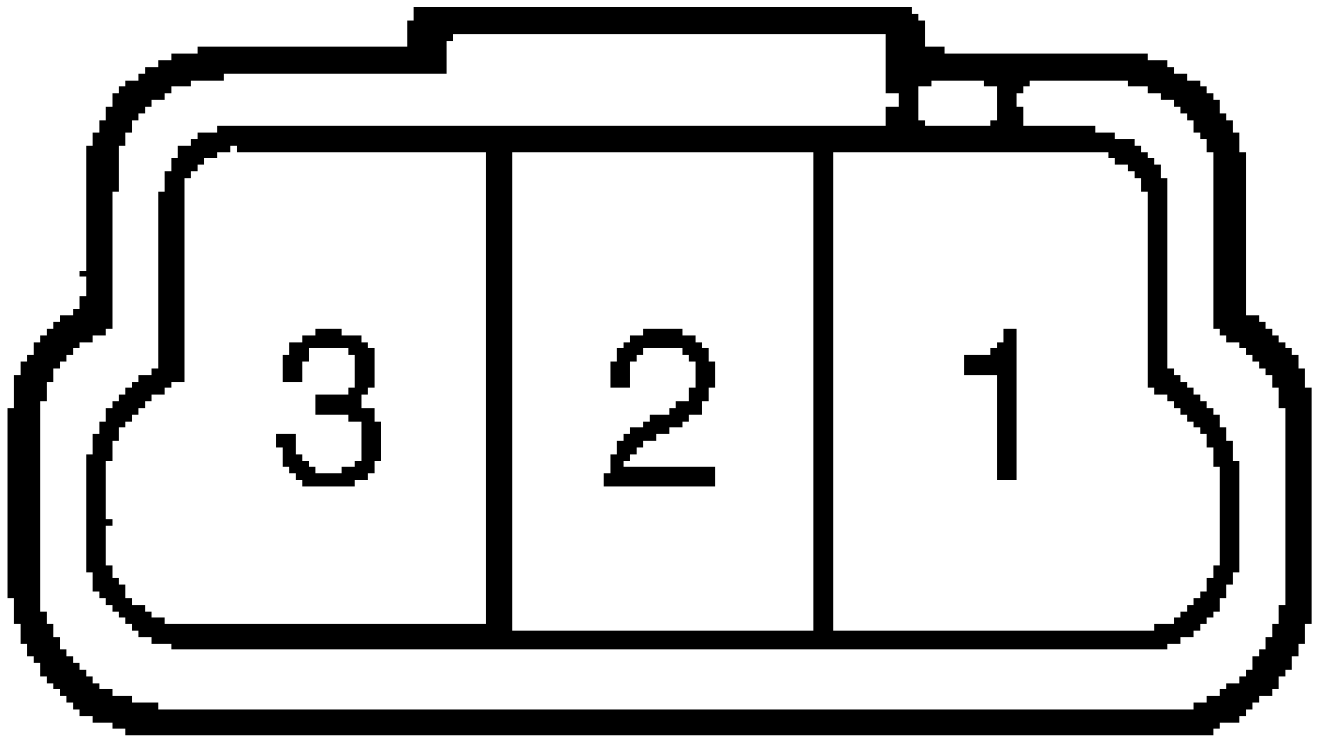
- 1) Using 12-volt battery, connect jumper wire from positive battery terminal to wiper motor terminal No. 3. See Fig. 1. Connect another jumper wire between negative battery terminal and wiper motor terminal No. 1. Motor should operate at low speed.
- 2) Remove jumper wire from terminal No. 3. Reconnect 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 5.
- 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. 6. Motor should start running and then stop at the PARK position. Replace motor if operation is not as described.



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

FRONT WIPER RELAY TEST



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Fig. 2: Identifying Front & Rear Wiper Relay Terminals
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

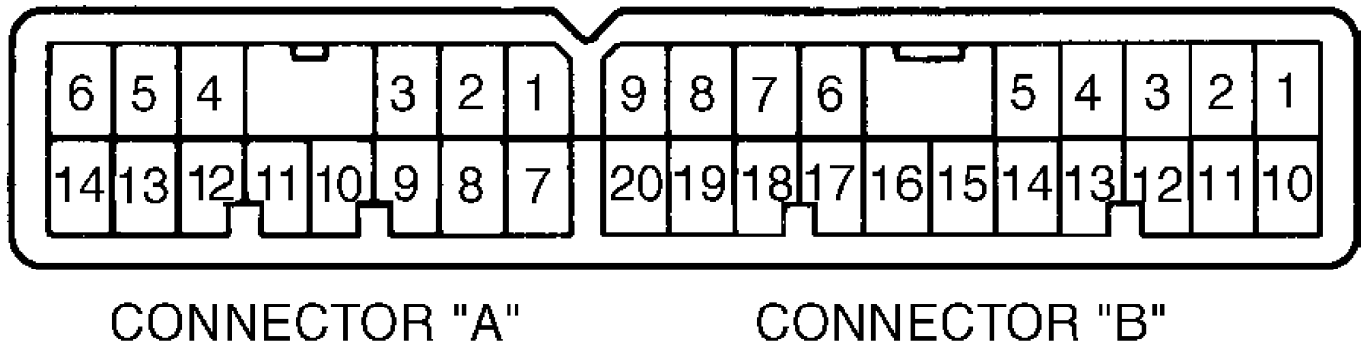
FRONT WIPER SWITCH TEST

With wiper switch in specified position, ensure continuity exists between terminals listed. See WIPER SWITCH CONTINUITY TEST table. See Fig. 3. Replace wiper switch assembly if continuity is not as specified.

WIPER SWITCH CONTINUITY TEST TABLE

Switch Position	(1) Terminals
Supra	
Off	B4 & B7
Off & Mist	B7 & B18
Intermittent	B4 & B7
Intermittent & Mist	B7 & B18
Low	B7 & B18
Low & Mist	B7 & B18
High	B13 & B18
High & Mist	B7 & B13; B13 & B18

(1) - See Fig. 3.



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Fig. 3: Identifying Combination Switch Connectors For Wipers
 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. 3. Replace complete wiper switch assembly if continuity is not as specified.

WASHER SWITCH CONTINUITY TEST TABLE

Switch Position	(1) Terminals	Continuity
Supra		
Off	B8 & B16	No
On	B8 & B16	Yes

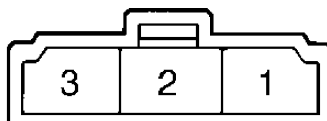
(1) - See Fig. 3.

REAR WIPER MOTOR TEST

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. 4. 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.



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Fig. 4: Identifying Rear Wiper Motor Terminals
 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.

REAR WIPER RELAY LOCATION TABLE

Model	Location
Supra	Inside Back Door At Rear Wiper Motor

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. 3. Replace complete wiper switch if continuity is not as specified.

REAR WIPER/WASHER SWITCH CONTINUITY TEST TABLE

Switch Position	(1) Terminals	Continuity
Supra		
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

(1) - See Fig. 3.

REMOVAL & INSTALLATION

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.

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 STEERING COLUMN SWITCHES article.

Removal

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 PANEL article. Remove steering column upper and lower covers. Remove steering wheel. See STEERING WHEEL.

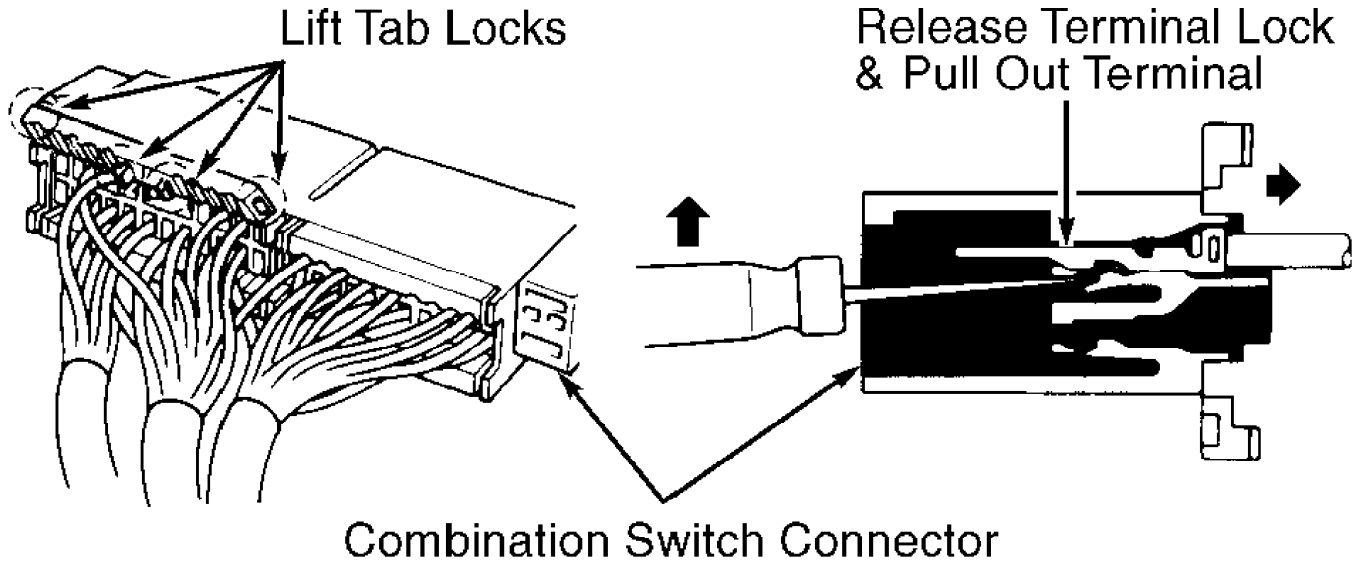
2) Locate wiper/washer switch wire terminal positions installed into combination switch harness connector. See Fig. 3. Lift tab locks on combination switch connector. See Fig. 5.

3) Using miniature screwdriver, release wire terminal securing tab inside connector. See Fig. 5. 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. 6.

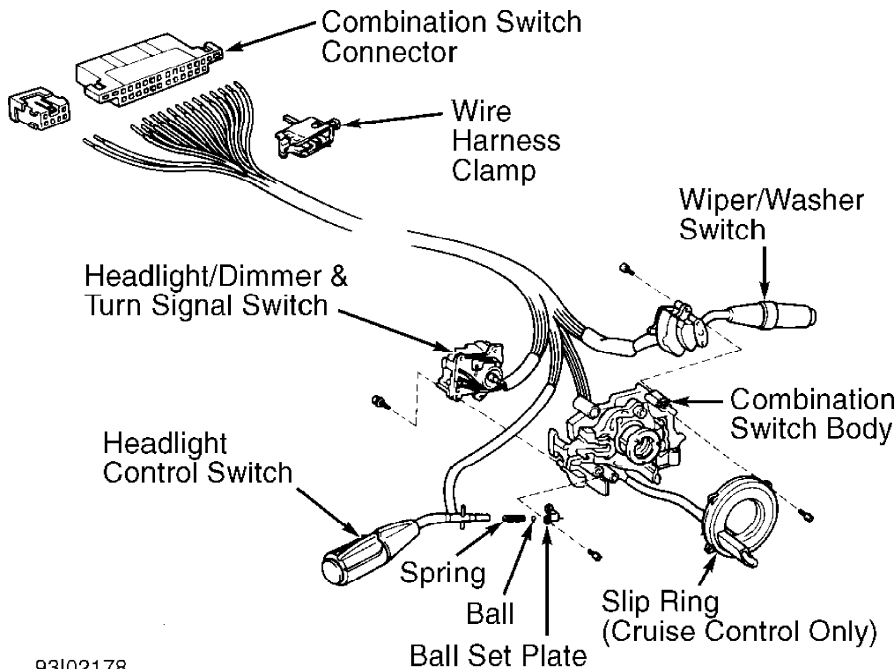
Installation

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



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Fig. 5: Releasing Wire Terminal Inside Combination Connector
 Courtesy of Toyota Motor Sales, U.S.A., Inc.



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Fig. 6: Identifying Combination Switch Components (Typical)
 Courtesy of Toyota Motor Sales, U.S.A., Inc.

REAR WIPER SWITCH

Removal & Installation

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

STEERING WHEEL

Removal

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 air bag pad retaining torx screws until screw heads are snug against screw case. See Fig. 7.

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.

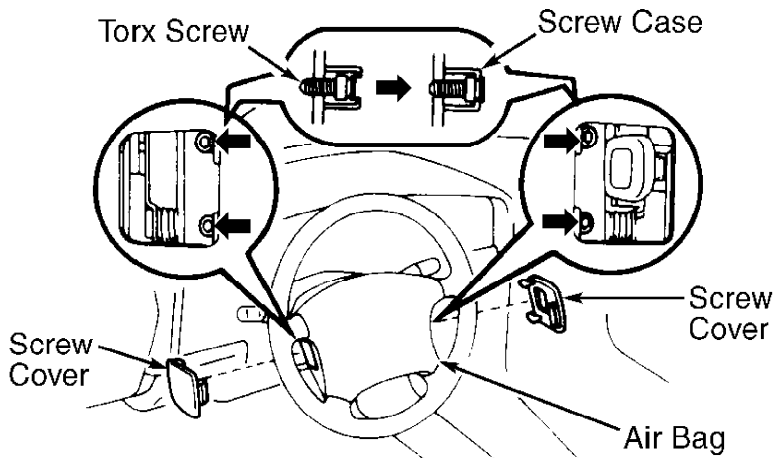
Installation

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. Install steering wheel locknut and washer. 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. 7.

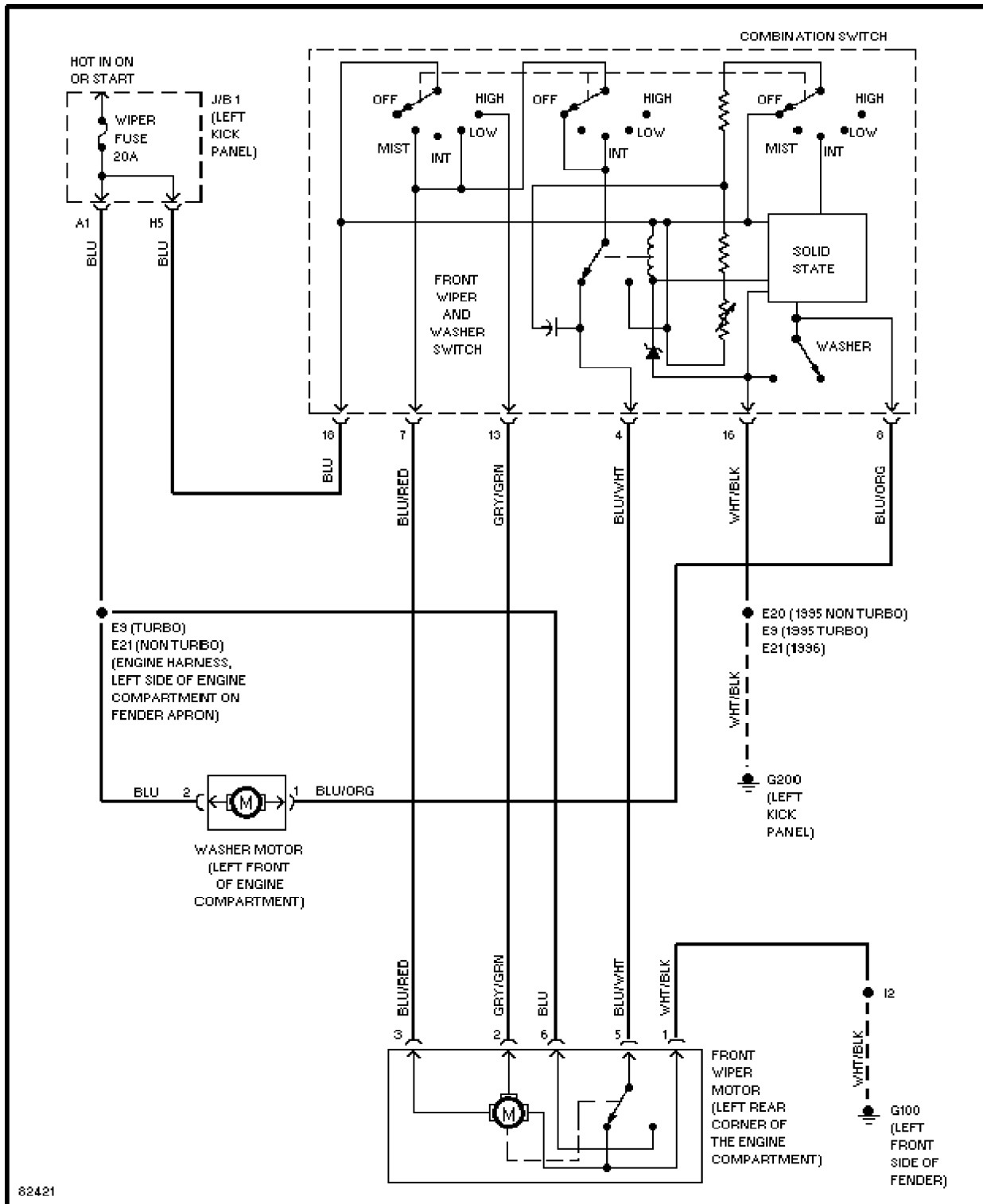
4) Install air bag pad to steering wheel ensuring all wiring is NOT pinched and DOES NOT interfere with moving parts. Tighten 4 Torx screws to 65 INCH lbs. (7.4 N.m). Install screw covers. Connect negative battery cable.



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Fig. 7: Removing Air Bag From Steering Wheel (Typical)
Courtesy of Toyota Motor Sales, U.S.A., Inc.

WIRING DIAGRAMS



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Fig. 8: Front Wiper/Washer System Wiring Diagram (1995-96)

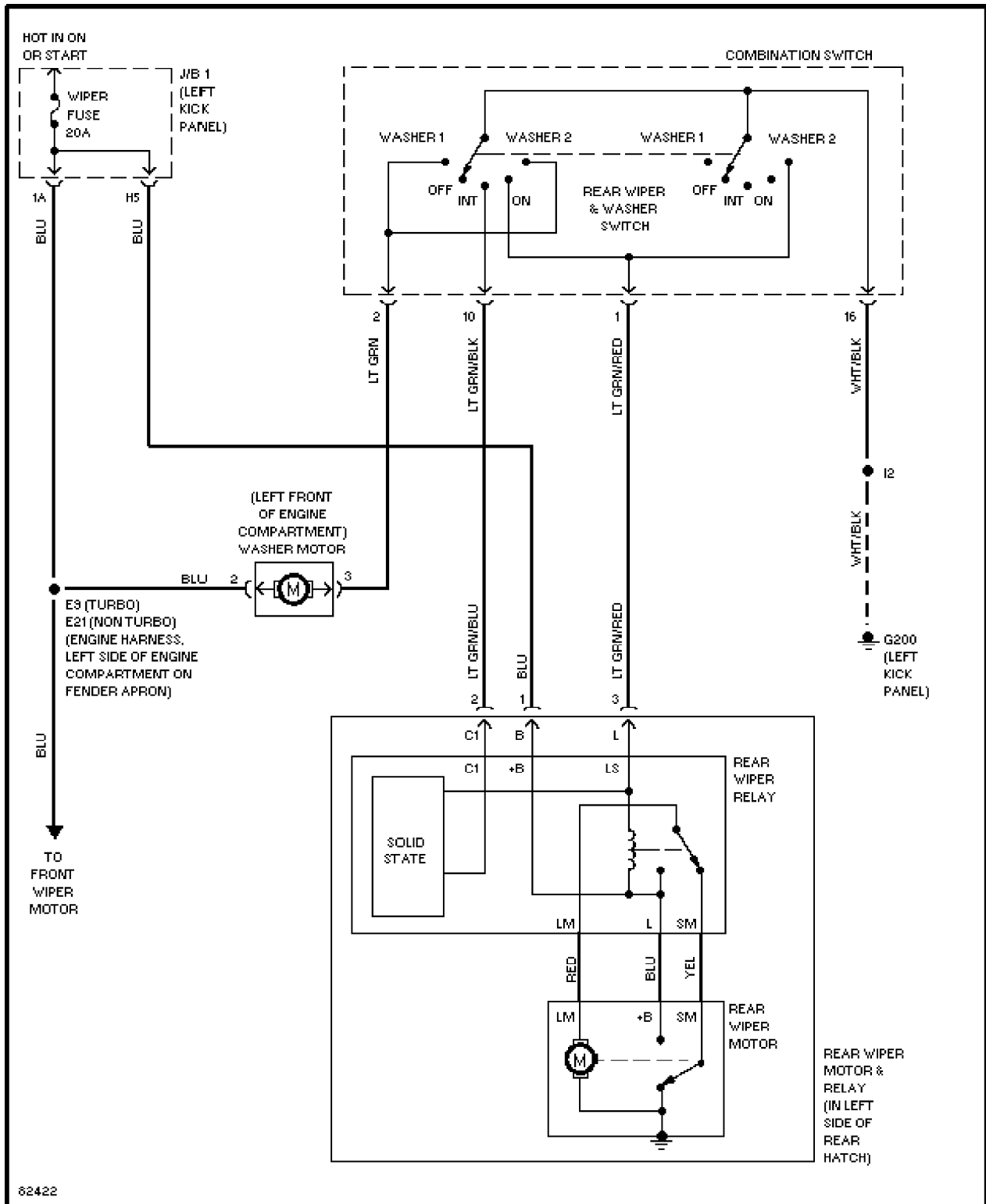


Fig. 9: Rear Wiper/Washer System Wiring Diagram (1995-96)