

**Toyota Motor Sales, U.S.A., Inc.** 19001 South Western Avenue Torrance, CA 90501 (310) 468-4000

To: All Toyota Dealer Principals, Service Managers, Parts Managers

Subject: Voluntary Safety Recall – A0H

Certain 2000 through 2004 Toyota Avalon Steering Column Upper Bracket Replacement

As communicated on July 29, 2010, Toyota filed a Defect Information Report (DIR) with the National Highway Traffic Safety Administration (NHTSA) informing the agency of our intent to conduct a voluntary Safety Recall on certain 2000 through 2004 model year Toyota Avalon vehicles.

The purpose of this communication is to inform you and your staff that Toyota has completed preparations for this condition and will begin notifying owners in early September 2010.

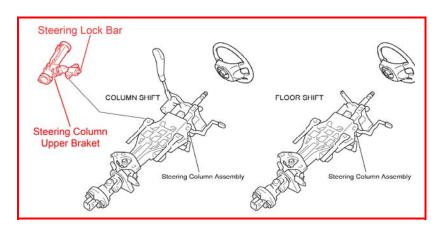
### **Background**

Due to the improper casting of the steering lock bar ("bar"), which is a component of the steering interlock system, there is a possibility that a minute crack may develop on the surface. Such a crack may expand over a long period of repeated lock and unlock operations, and eventually the bar could break. If this occurs, the interlock system may become difficult to unlock when stationary.

If the vehicle while being driven is steered to the right with sufficient lateral acceleration, a broken and loose lock bar may move toward the steering shaft. If the engagement hole in the shaft happens to line up at the specific time the broken lock bar has moved, this could cause the steering wheel lock bar to engage, locking the steering wheel, and increasing the risk of a crash.

### Safety Recall Remedy

Toyota dealers are requested to replace the Steering Column Upper Bracket at **NO CHARGE** to the vehicle owner.



The following vital information is provided to inform you and your staff of the owner notification phase of this Safety Recall and your degree of involvement.

### 1. Owner Notification Mailing Date

The owner notification will commence in early September 2010 approximately one week after the dealer notification.

Only owners of the vehicles covered by this Safety Recall will be notified. If you are contacted by an owner, who has not yet received a notification, please *verify eligibility by confirming through Dealer Daily/TIS prior to performing repairs*. Dealers should perform the Safety Recall remedy as outlined in the Technical Instructions located on TIS.

### 2. Dealer Summary Reports

Summary Reports containing the *number* of involved vehicles in your dealership's primary marketing area (PMA) have been enclosed in the dealer package.

### 3. Number and Identification of Involved Vehicles

There are approximately 373,000 Toyota Avalon (2000 through 2004 model year) vehicles registered in the U.S. that are covered by this Safety Recall

Model	WMI	MY	VIN Range		
Wiodei			VDS	Serial	
Avalon	4T1	2000	BF28B	U001015 - U114477	
		2001	BF28B	U088593 - U196317	
		2002	BF28B	U165562 - U267448	
		2003	BF28B	U241036 - U339097	
		2004	BF28B	U333766 - U391317	

### NOTE:

- Owners do not require the owner notification for the remedy to be performed. If your dealership is
  contacted by an owner who has not yet received a notification or did not bring it, please verify
  eligibility and completion status by confirming through Dealer Daily/TIS prior to performing
  the remedy.
- Dealers should perform the remedy as outlined in the Technical Instructions found on TIS.

### 5. Parts Ordering

The remedy parts can be ordered through the dealer's facing PDC. Please refer to the table below and the Technical Instructions for part number information.

Model Part No.		Part Name	Qty/Unit	
Avalon	Avalon 04000-45141 Steering Column Bracket Assembly Kit			
The kit above includes the following parts:				
45280-41040 = Steering Column Bracket Assembly Upper = Quantity 1				
45897-12020 = Steering Lock Set Bolt = Quantity 2				
90464-00551 = Clamp = Quantity 1				

### **IMPORTANT PARTS ORDERING REMINDER**

Effective March 1, 2009, Safety Recall, Service Campaign (SSC/LSC) and Customer Support Program (CSP) parts do not earn Parts Return Credit Accrual and are not returnable under the Monthly Return Program. It is recommended that you order these parts based on appointments or immediate customer needs using a "Sell One-Buy One" ordering pattern. Please refer to PANT Bulletin 09-12 for additional details.

A UIO matrix by state is provided to inform your dealership of the number of vehicles in your state.

STATE	UIO
AK	190
AL	7,059
AR	3,878
AZ	6,340
CA	54,194
CO	4,981
CT	4,434
DC	659
DE	1,295
FL	26,281
GA	13,369
CO CT DC DE FL	4,981 4,434 659 1,295 26,281

STATE	UIO
HI	1,118
IA	2,998
ID	1,184
IL	14,542
IN	5,643
KS	3,236
KY	6,717
LA	6,351
MA	11,699
MD	11,924
ME	1,184

UIO
4,200
4,732
5,591
3,715
772
15,063
560
1,811
1,791
12,656
1,746

STATE	UIO
NV	2,811
NY	16,141
OH	12,105
OK	4,256
OR	3,487
PA	13,342
RI	1,494
SC	7,296
SD	660
TN	9,187
TX	29,717

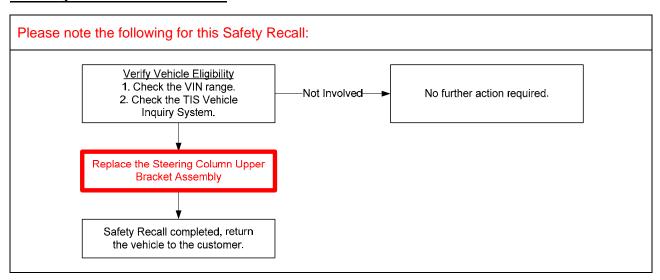
STATE	UIO
UT	2,942
VA	13,236
VT	381
WA	5,830
WI	4,716
WV	1,533
WY	454

### 7. Remedy Procedures

Refer to TIS for the appropriate Technical Instructions, and for additional information.

Conduct all applicable, open Safety Recall and Service Campaigns on the vehicle during the time of appointment.

### 8. Warranty Processor Instructions



The operation codes to be used for this Safety Recall are:

Safety Recall No.	Op. Code	Description	Flat Rate Hour
A0H	0525G1	Replace the Steering Column Upper Bracket (Column Shift)	1.6 hr/vehicle
A0H	0525G2	Replace the Steering Column Upper Bracket (Floor Shift)	1.5 hr/vehicle

• The above flat rate time includes 0.1 hour for administrative cost per unit.

### 9. Customer Handling

Please consider this Safety Recall a great opportunity to focus on assuring customers that their safety remains Toyota's highest priority. Customers who receive the owner letter may contact your dealership with questions regarding the letter and/or Safety Recall remedy. Please welcome them to your dealership and answer any questions that they may have. A Q&A is provided to assure a consistent message is communicated.

Customers with additional questions or concerns are asked to please contact the Toyota Customer Experience Center (1-888-270-9371).

### 10. Media Contacts

### For News media inquiries only:

Due to the nature of this Safety Recall, it is imperative that all media contacts (local and national) receive a consistent message. In this regard, *all media contacts* must be directed to Brian Lyons (310) 468-2552, John Hanson (310) 468-4718, in Corporate Communications. (Please do not provide these numbers to customers or direct dealership associates to call).

Please review this entire package with your Service and Parts staff to familiarize them with the proper step-by-step procedures required to implement this Safety Recall.

Thank you for your cooperation.

TOYOTA MOTOR SALES, U.S.A., INC.

### Certain 2000 through 2004 Toyota Avalon Steering Column Upper Bracket Safety Recall Notice

Please make an appointment with your local Toyota Dealer to have this important remedy completed.

[VIN]

Dear Toyota Owner:

This notice is being sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Safety Act. Toyota has decided that a defect, which relates to motor vehicle safety, exists in the Steering Column Upper Bracket of certain 2000 – 2004 Model Year Toyota Avalon vehicles.

### What is the condition?

Due to the improper casting of the steering lock bar ("bar"), which is a component of the steering interlock system, there is a possibility that a minute crack may develop on the surface. Such a crack may expand over a long period of repeated lock and unlock operations, and eventually the bar could break. If this occurs, the interlock system may become difficult to unlock when stationary.

If the vehicle while being driven is steered to the right with sufficient lateral acceleration, a broken and loose lock bar may move toward the steering shaft. If the engagement hole in the shaft happens to line up at the specific time the broken lock bar has moved, this could cause the steering wheel lock bar to engage, locking the steering wheel, and increasing the risk of a crash.

### What is Toyota going to do?

Any Toyota dealer will replace the Steering Column Upper Bracket with a newly designed one at NO CHARGE to you.

### What should you do?

### This is an important Safety Recall

Please contact your authorized Toyota dealer and make an appointment to have this important Safety Recall performed on your vehicle as soon as possible.

The remedy will take approximately two hours to complete. However, depending upon the dealer's work schedule, it may be necessary to make your vehicle available for a longer period of time.

### What if you have other questions?

Your local Toyota dealer will be more than happy to answer any of your questions and set up an appointment to perform the replacement. If you require further assistance, you may contact the Toyota Customer Experience Center at 1-888-270-9371 Monday through Friday, 5:00 am to 6:00 pm, Saturday 7:00 am through 4:00 pm Pacific Standard Time.

### What if you have previously paid for repairs for this condition?

If you have previously paid for the replacement of the steering column upper bracket to address this specific condition, please mail a copy of the repair order, proof-of-payment, and proof-of-ownership to the following address for reimbursement consideration

Toyota Motor Sales, U.S.A., Inc Toyota Customer Experience, WC 10 19001 South Western Avenue Torrance, CA 90509 If you believe that the dealer or Toyota has failed or is unable to remedy the defect within a reasonable time, you may submit a complaint to the Administrator, National Highway Traffic Safety Administration, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590; or call the toll-free Vehicle Safety Hotline at 1-888-327-4236 (TTY: 1-800-424-9153) or go to <a href="http://www.safercar.gov">http://www.safercar.gov</a>.

If you are a vehicle lessor, Federal law requires that any vehicle lessor receiving this recall notice must forward a copy of this notice to the vehicle lessee within ten days of your receipt of this letter.

Thank you for driving a Toyota.

Sincerely,

TOYOTA MOTOR SALES, U.S.A., INC.





Voluntary Safety Recall A0H Certain 2000 through 2004 Toyota Avalon Steering Column Upper Bracket Q&A

### Q1: What is the condition?

A1: Due to the improper casting of the steering lock bar ("bar"), which is a component of the steering interlock system, there is a possibility that a minute crack may develop on the surface. Such a crack may expand over a long period of repeated lock and unlock operations, and eventually the bar could break. If this occurs, the interlock system may become difficult to unlock when stationary.

If the vehicle while being driven is steered to the right with sufficient lateral acceleration, a broken and loose lock bar may move toward the steering shaft. If the engagement hole in the shaft happens to line up at the specific time the broken lock bar has moved, this could cause the steering wheel lock bar to engage, locking the steering wheel, and increasing the risk of a crash.

### Q2: What is the cause of this condition?

A2: Due to the improper casting of the steering lock bar ("bar"), which is a component of the steering interlock system, there is a possibility that a minute crack may develop on the surface.

### Q3: Where is the steering lock bar located?

A3: The steering lock bar is integrated into the ignition key cylinder.

### Q4: Which and how many vehicles are involved?

A4: There are approximately 373,000 vehicles involved in the U.S.

### Q5: What is the production period of the vehicles covered by this Safety Recall?

A5: The Avalon vehicles covered by this Safety Recall were produced from late April, 1999 through late December, 2004.

### Q6: Does this Safety Recall cover other Toyota/Lexus models?

A6: There are no other models covered by this Safety Recall.

### Q7: Have there been any reports of accidents?

A7: There are three unconfirmed minor accidents alleged to be related to this condition. The accidents do not involve injuries.

### Q8: Are there any warnings that this condition has occurred?

A8: No, there are no specific warnings that this condition will occur.

### Q9: What is Toyota going to do?

A9: Owners of the involved vehicles will receive a Safety Recall notification by first class mail beginning in early September, 2010. Toyota dealers will replace the Steering Column Upper Bracket at **NO CHARGE** to the customer.

### Q10: What should customers do?

A10: Owners of vehicles covered by this Safety Recall are requested to contact an authorized Toyota dealer and make an appointment to have this important Safety Recall performed as soon as possible.

### Q11: How long will the repair take?

A11: The remedy will take approximately two hours to complete. However it may take longer based upon the inspection results and the dealer's work schedule.

### **Q12** What if an owner has previously paid for repairs for this condition?

A12: Owners that have previously paid for their steering column upper bracket to be replaced to address this specific condition should refer to the owner letter for instructions regarding reimbursement consideration.

### Q13: Under what conditions does this occur most frequently?

A13: This condition mostly occurs when the vehicle is parked, the steering wheel is turned to be locked and the ignition key is removed.

What if an owner has additional questions or concerns?

Owners with questions or concerns are asked to please contact the Toyota Customer Experience Center at **Q14:** A14: 1-888-270-9371 Monday through Friday, 5:00 am to 6:00 pm, or Saturday 7:00 am through 4:00 pm Pacific Standard Time.

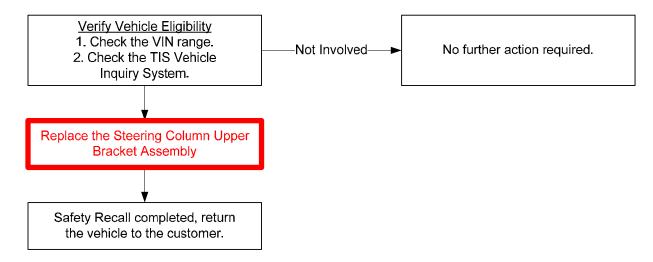
### **TECHNICAL INSTRUCTIONS**

### **FOR**

### **SAFETY RECALL A0H**

# STEERING COLUMN UPPER BRACKET ASSEMBLY REPLACEMENT 2000 – 2004 MODEL YEAR AVALON

### I. OPERATION FLOWCHART



### II. IDENTIFICATION OF AFFECTED VEHICLES

### A. AFFECTED VIN RANGE

Model	WMI	I Year	VIN Range		
Model	VVIVII		VDS	Range	
	4T1	2000	BF28B	U001015 – U114477	
AVALON		2001	BF28B	U088593 – U196317	
		2002	BF28B	U165562 – U267448	
		2003	BF28B	U241036 - U339097	
		2004	BF28B	U333766 – U391317	

### NOTE:

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

### III. PREPARATION

### A. PARTS

Part Number	Part Number Part Description			
04000-45141	04000-45141 Steering Column Bracket Assembly Kit			
	The kit above includes the following parts:			
45280-41040 = Steering Column Bracket Assembly Upper = Quantity 1				
45897-12020 = Steering Lock Set Bolt = Quantity 2				
90464-00551 = Clamp = Quantity 1				

### **B. TOOLS & EQUIPMENT**

- Torx® T30 Socket
- Torque Wrench
- Techstream
- Standard Hand Tools
- Pin Punch
- Protective Eyewear
- Protective Gloves
- Screw Extractor (M8) or an Equivalent Commercially Available Tool
- Nylon Pry Tools
- Drill & Drill Bits
- Special Service Tool (SST)
  - ° 09843-18040 Diagnosis Check Wire 2
  - ° 09950-50013 Universal Puller Set C
    - (09951-05010 Hanger 150)
    - (09952-05010 Slide Arm)
    - (09953-05020 Center Bolt 150)
    - (09954-05020 Claw No. 2)

#### C. MATERIALS

- Marking Pen
- Protective tape
- Wood Pieces

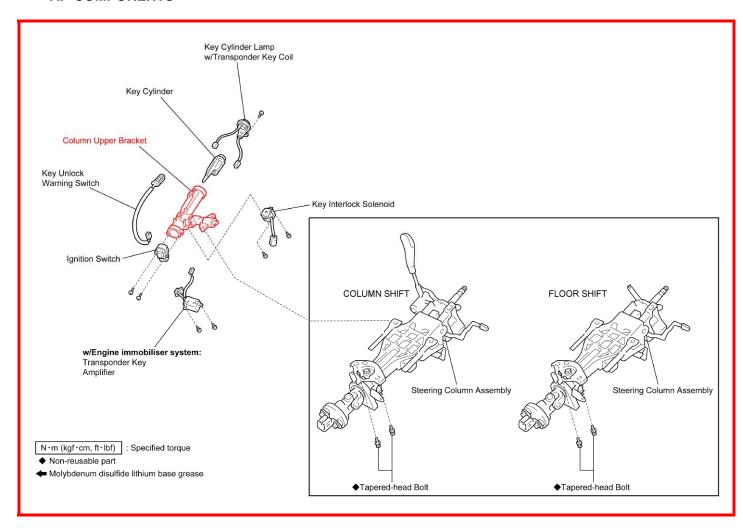
### IV. BACKGROUND

Due to the improper casting of the steering lock bar ("bar"), which is a component of the steering interlock system, there is a possibility that a minute crack may develop on the surface. Such a crack may expand over a long period of repeated lock and unlock operations, and eventually the bar could break. If this occurs, the interlock system may become difficult to unlock when stationary.

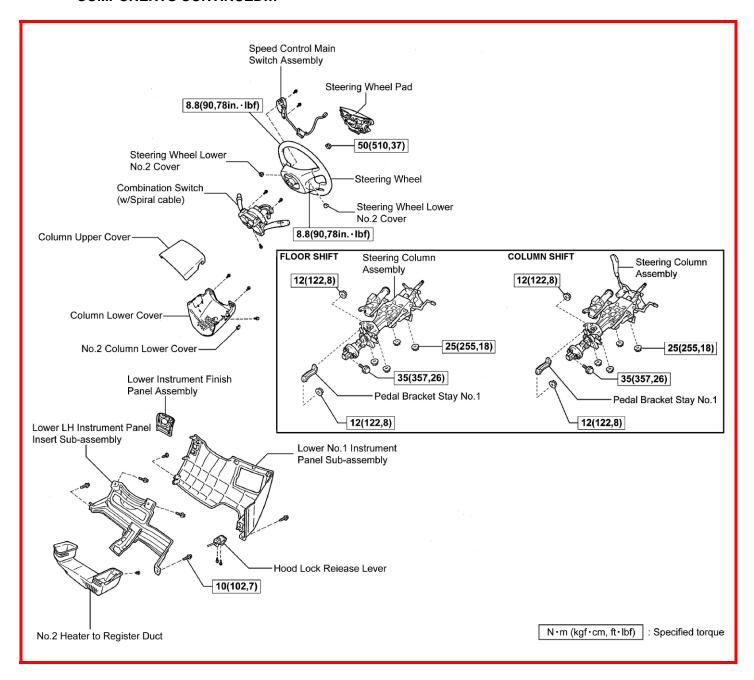
If the vehicle while being driven is steered to the right with sufficient lateral acceleration, a broken and loose lock bar may move toward the steering shaft. If the engagement hole in the shaft happens to line up at the specific time the broken lock bar has moved, this could cause the steering wheel lock bar to engage, locking the steering wheel, and increasing the risk of a crash.

### V. WORK PROCEDURE

### A. COMPONENTS



#### COMPONENTS CONTINUED...



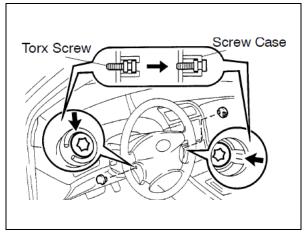
### **B. REMOVE THE STEERING COLUMN ASSEMBLY**

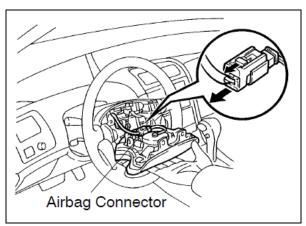
### 1. DISCONNECT THE NEGATIVE BATTERY CABLE

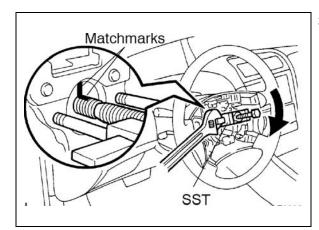
- a) Record the radio station presets.
- b) Disconnect the negative battery cable and wait 90 seconds.

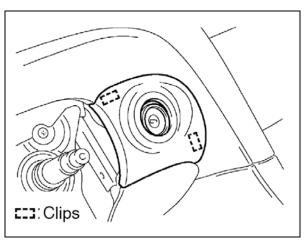
### NOTE:

Wait 90 seconds after the negative battery cable is disconnected before starting work on the SRS system. The SRS is equipped with a backup power source, if work is started within 90 seconds after disconnecting the negative battery cable, the SRS may be deployed.









### 2. REMOVE THE STEERING WHEEL PAD (AIRBAG)

- a) Place the front wheels in a straight-ahead position.
- b) Using a nylon pry tool, disengage the claw and remove the left steering wheel lower cover No. 2.
- c) Using a nylon pry tool, disengage the claw and remove the right steering wheel lower cover No. 2. *If equipped* with a cruise control switch, remove the cover by disengaging the claw with a pocket screw driver.
- d) Loosen the 2 Torx® screws.

### NOTE:

Loosen the Torx<sup>®</sup> screws until the groove along the circumference catches on the screw case as shown.

- e) Lower the wheel pad (airbag) and disconnect the airbag and horn connector.
- f) Remove the wheel pad (airbag).

#### NOTE:

- When removing the wheel pad (airbag), take care not to pull on the horn and airbag wire harness.
- When storing the wheel pad (airbag), keep the front surface facing upwards.
- Never dissassemble the wheel pad (airbag).

### 3. REMOVE THE STEERING WHEEL

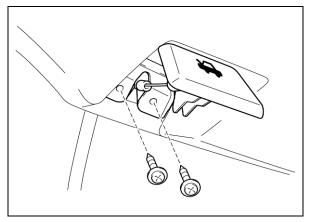
- a) Disconnect the connector.
- b) Remove the steering wheel nut.
- c) Place matchmarks on the steering wheel and main shaft assembly.
- d) Remove the steering wheel using the SST listed.

### SST:

- 09951-05010 Hanger 150
- 09952-05010 Slide Arm
- 09953-05020 Center Bolt 150
- 09954-05020 Claw No. 2

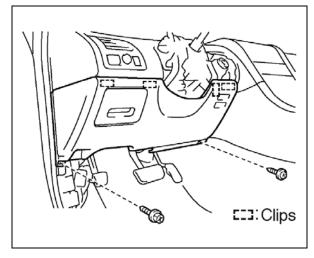
### 4. REMOVE THE LOWER INSTRUMENT FINISH PANEL ASSEMBLY

a) Using a nylon pry tool, disengage the 2 clips and remove the finish panel assembly.



### 5. REMOVE THE HOOD LOCK RELEASE LEVER

- a) Remove the 2 screws and the hood lock release lever.
- b) Remove the hood lock cable from the release lever.

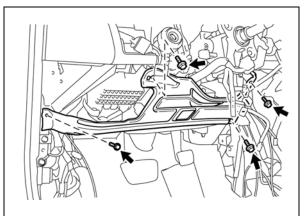


### 6. REMOVE THE LOWER NO. 1 INSTRUMENT PANLE SUB-ASSEMBLY

- a) Remove the bolt and screw.
- b) Using a nylon pry tool disengage the 4 clips.
- c) Disconnect the power outlet switch and traction control switch *(if equipped)* connectors.
- d) *If equipped* with a room temperature sensor, disconnect the connector and hose.
- e) Remove the lower instrument finish panel.

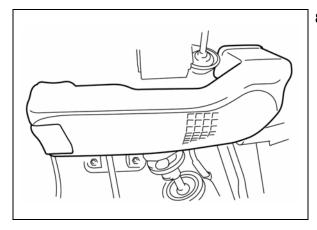
### NOTE:

DO NOT damage the room temperature sensor when disconnecting the hose.



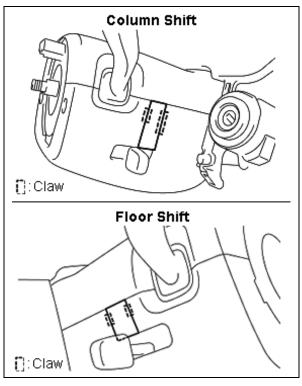
### 7. REMOVE THE LOWER LH INSTRUMENT PANEL INSERT SUB-ASSEMBLY

- a) Remove the DLC connector by disengaging the 2 claws.
- b) Remove the 4 bolts and the Instrument panel insert sub-assembly.



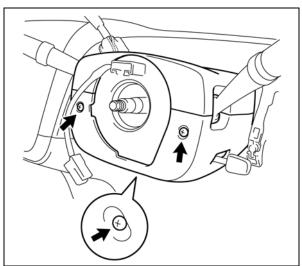
### 8. REMOVE THE NO. 2 HEATER TO REGISTER DUCT

a) Remove the clip and the heater to register duct.



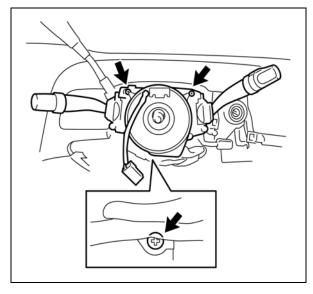
### 9. REMOVE THE NO. 2 COLUMN LOWER COVER

a) Using a nylon pry tool, disengage the 2 claws and remove the column lower cover.



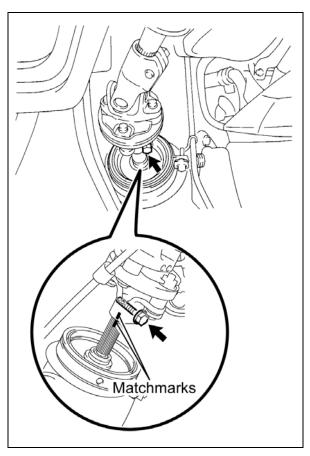
### 10. REMOVE THE STEERING COLUMN COVERS

- a) Remove the 3 screws.
- b) Remove the upper and lower steering column covers.



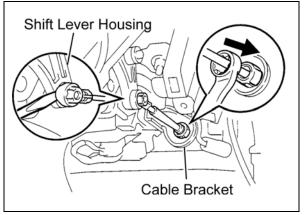
### 11. REMOVE THE COMBINATION SWITCH WITH SPIRAL CABLE

- a) Disconnect the 4 connectors.
- b) Remove the 3 screws and the combination switch with spiral cable.



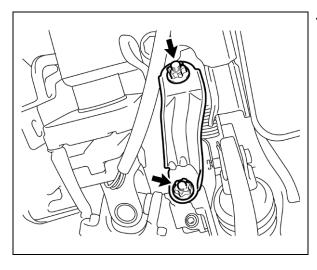
### 12. LOOSEN THE INTERMEDIATE SHAFT SUB-ASSEMBLY

- a) Place matchmarks on the intermediate shaft subassembly and joint shaft.
- b) Remove the bolt.



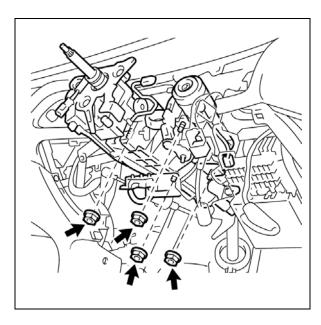
### 13. DISCONNECT THE TRANSMISSION CONTROL CABLE (COLUMN SHIFT ONLY)

- a) Using a screwdriver, disconnect the transmission control cable from the shift lever housing.
- b) Using an offset wrench, disconnect the transmission control cable from the column tube bracket.



### 14. REMOVE THE STEERING COLUMN ASSEMBLY

a) Remove the 2 nuts and the pedal bracket stay No. 1.

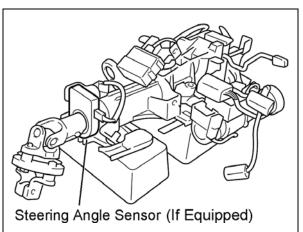


- b) Disconnect the 5 connectors.
- c) Disconnect the 3 wire harness clamps.
- d) Remove the 4 nuts and the steering column assembly.

### NOTE:

Make sure to wear protective gloves when removing the steering column assembly, as there may be sharp edges on the surrounding components.

### C. REPLACE THE STEERING COLUMN UPPER BRACKET

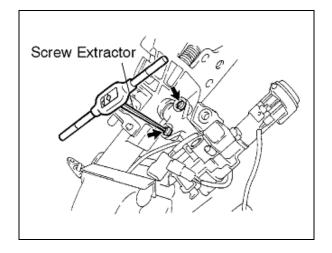


### 1. REMOVE THE STEERING COLUMN UPPER BRACKET

 Place the steering column assembly on pieces of wood as shown.

### NOTE:

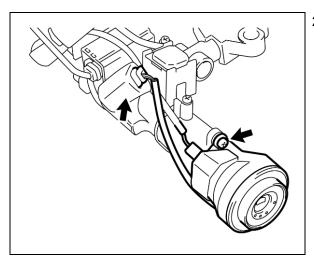
Placing the steering column assembly on pieces of wood will prevent the steering angle sensor (if equipped) from getting damage, during the removal process.



- b) Using a center punch, mark the center of the 2 steering column upper bracket bolt heads.
- c) Using a 3 4 mm (0.12 0.16 in.) bit, drill a hole 10 mm deep into the 2 bolt heads.
- d) Clean up any metal debris.
- e) Remove the 2 bolts with a screw extractor (M8) or an equivalent commercially available tool.
- f) Remove the steering column upper bracket.

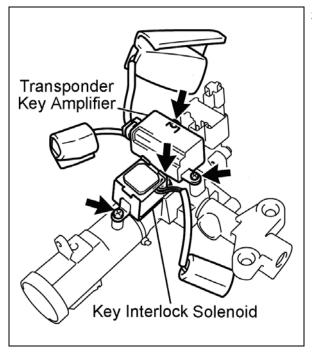
### NOTE:

- Make sure the hole is centered on the bolt heads.
- DO NOT damage the threads of the steering column when drilling the bolt heads.
- Make sure to wear protective eyewear when drilling.



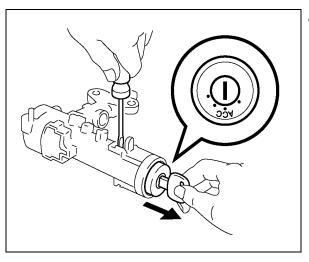
### 2. REMOVE THE KEY CYLINDER LAMP ASSEMBLY

- a) Disconnect the transponder key amplifier connector (if equipped).
- b) Remove the screw and key cylinder lamp assembly.



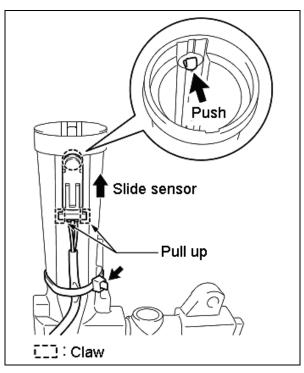
### 3. REMOVE THE TRANSPONDER KEY AMPLIFIER AND KEY INTERLOCK SOLENOID

- a) Remove the 2 screws and the transponder key amplifier.
- b) Remove the 2 screws and the key interlock solenoid.



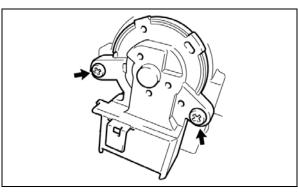
### 4. REMOVE THE KEY CYLINER

- a) Insert the ignition key and turn it to the ACC position..
- b) Push the stop pin down with a screwdriver and pull out the key cylinder.



#### 5. REMOVE THE KEY UNLOCK WARNING SWITCH

- a) Remove the unlock warning switch connector from the ignition switch.
- b) Cut the clamp (wire tie) holding the key unlock warning switch wire harness.
- c) Push in the key unlock warning switch (inside the lock cylinder) while pulling up on the 2 claws, then slide the assembly up to remove it.



### 6. REMOVE THE IGNITION SWITCH

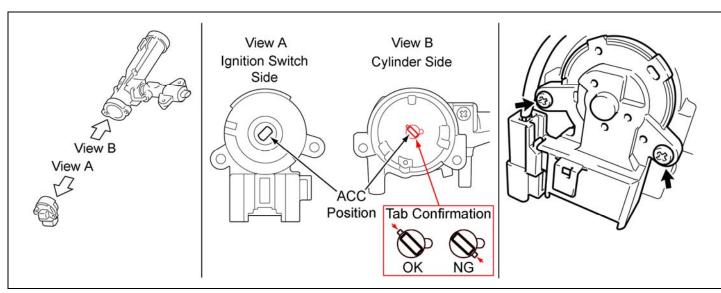
- a) Remove the 2 screws and the ignition switch.
- b) Place a mark on the original steering column upper bracket and discard it.

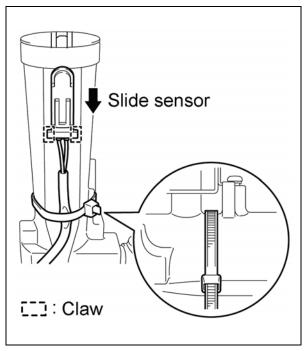
#### NOTE:

As required by Federal Regulations, please make sure all recalled parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, *unless requested for parts recovery return.* 

### 7. REINSTALL THE IGNITION SWITCH'

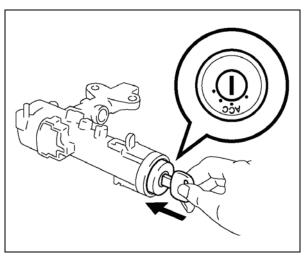
- a) Place the **NEW** steering column upper bracket cylinder shaft in the ACC position, while making sure the tab is in the correct location as shown.
- b) Reinstall the ignition switch to the **NEW** steering column upper bracket with the 2 screws.





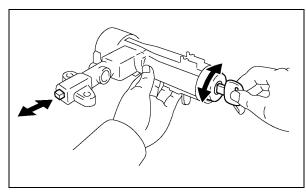
### 8. REINSTALL THE KEY UNLOCK WARNING SWITCH

- Reinstall the key unlock warning switch assembly by sliding it down onto the *NEW* steering column upper bracket, making sure the 2 claws engage.
- b) Resecure the wire harness to the **NEW** steering column upper bracket with a **NEW** clamp (wire tie).
- c) Reinstall the unlock warning switch connector to the ignition switch.



### 9. REINSTALL THE KEY CYLINDER

- a) Make sure the key cylinder is in the ACC position.
- b) Insert the key cylinder assembly into the **NEW** steering column upper bracket assembly.
- c) Confirm the key cylinder assembly is firmly fixed.



### 10. INSPECT THE STEERING LOCK OPERATION

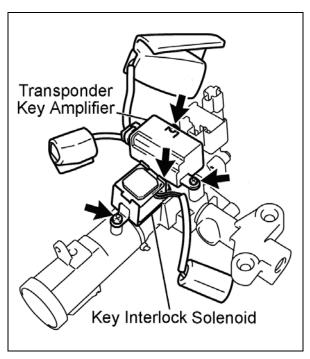
a) Confirm the steering lock mechanism operates properly.

#### Locked

Turn the ignition switch to the LOCK position and remove the key, the lock mechanism should extend out 9 mm.

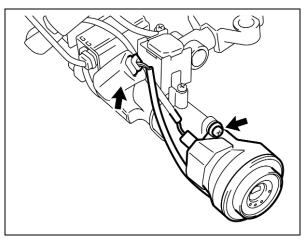
### Unlocked

Insert the key and turn the ignition switch to the ON position, the lock mechanism should retract.



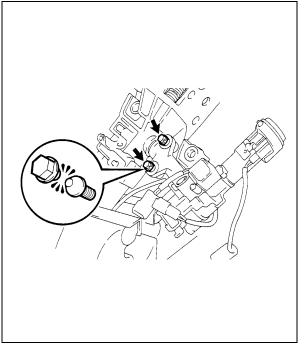
## 15. REINSTALL THE KEY INTERLOCK SOLENOID AND TRANSPONDER KEY AMPLIFIER TO THE <u>NEW</u> STEERING COLUMN UPPER BRACKET

- a) Reinstall the key interlock solenoid to the **NEW** steering column upper bracket with the 2 screws.
- b) Reinstall the transponder key amplifier to the **NEW** steering column upper bracket with the 2 screws.



### 11. REINSTALL THE KEY CYLINDER LAMP ASSEMBLY

- a) Reinstall the key cylinder lamp assembly.
- b) Reinstall the screw.
- c) Reconnect the transponder key amplifier connector (if equipped).



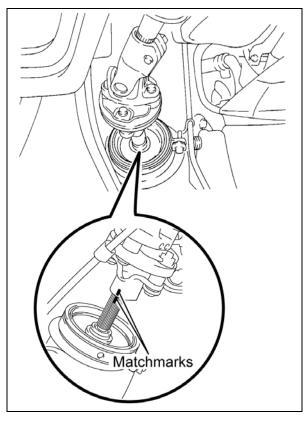
### 12. INSTALL THE <u>NEW</u> STEERING COLUMN UPPER BRACKET

- a) Place the steering column assembly on pieces of wood.
- b) Inspect the attachment threads for debris or damage from the drilling process.
- c) Install the **NEW** upper bracket to the steering column assembly with 2 **NEW** bolts.
- d) Tighten the bolts until the heads break off.
- e) Confirm the **NEW** upper bracket is securely fastened to the steering column assembly.

### NOTE:

- Placing the steering column assembly on pieces of wood will prevent the steering angle sensor (if equipped) from getting damage, during the installation process.
- If the upper bracket cannot be securely fastened due to attachment thread damage on the steering column, please contact your Region representative for further instruction.

### D. REINSTALL THE STEERING COLUMN ASSEMBLY

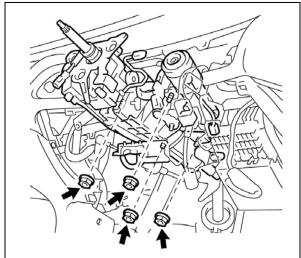


### 1. REINSTALL THE STEERING COLUMN ASSEMBLY

a) Utilizing the matchmarks, reconnect the intermediate shaft sub-assembly to the joint shaft.

### NOTE:

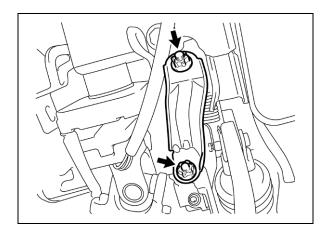
Make sure to wear protective gloves when reinstalling the steering column assembly, as there may be sharp edges on the surrounding components.



b) Reinstall the steering column assembly with the 4 nuts and torque to spec.

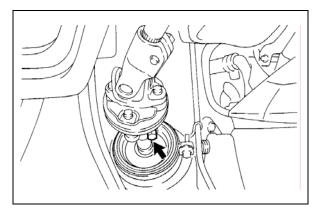
Torque: 25 N·m (255 kgf·cm, 18 ft·lbf)

- c) Reconnect the 3 wire harness clamps.
- d) Reconnect the 5 connectors.



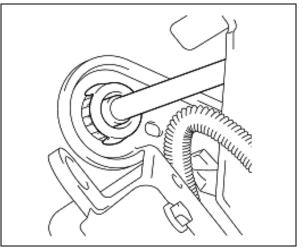
e) Reinstall the pedal bracket stay No. 1 with the 2 nuts and torque to spec.

Torque: 12 N-m (122 kgf-cm, 8 ft-lbf)



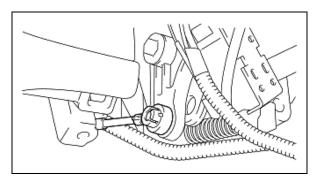
f) Reinstall the bolt to the intermediate shaft sub-assembly and torque to spec.

Torque: 35 N·m (357 kgf·cm, 26 ft·lbf)

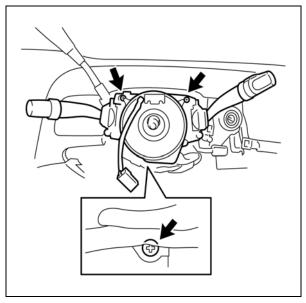


### 2. RECONNECT THE TRANSMISSION CONTROL CABLE (COLUMN SHIFT ONLY)

a) Reconnect the transmission control cable to the column tube bracket.

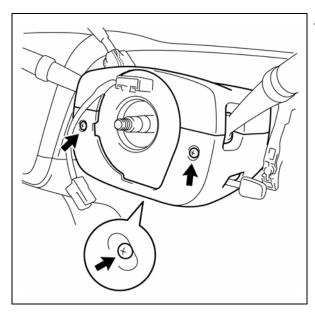


b) Reconnect the transmission control cable to the shift lever housing.



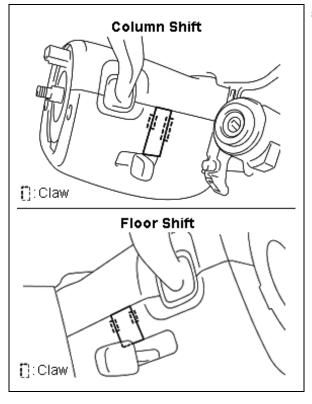
### 3. REINSTALL THE COMBINATION SWITCH WITH SPIRAL CABLE

- a) Reinstall the combination switch with spiral cable using the 3 screws.
- b) Reconnect the 4 connectors.



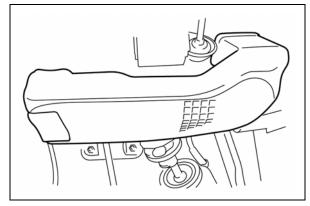
### 4. REINSTALL THE STEERING COLUMN COVERS

- a) Reinstall lower and upper steering column covers.
- b) Reinstall the 3 screws.



### 5. REINSTALL THE NO. 2 COLUMN LOWER COVER

a) Reinstall the column lower cover by engaging the 2 claws.

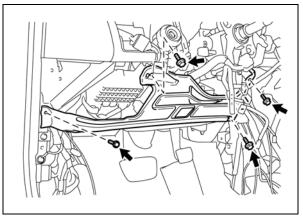


### 6. REINSTALL THE NO. 2 HEATER TO REGISTER DUCT

a) Reinstall the heater to register duct with the clip.

### NOTE:

- DO NOT deform the duct when reinstalling.
- Make sure the duct is firmly installed.

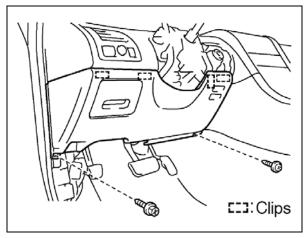


### 7. REINSTALL THE LOWER LH INSTRUMENT PANEL INSERT SUB-ASSEMBLY

a) Reinstall the Instrument panel insert sub-assembly with the 4 bolts and torque to spec.

Torque: 10 N·m (102 kgf·cm, 7 ft·lbf)

b) Reconnect the DLC connector by engaging the 2 claws.

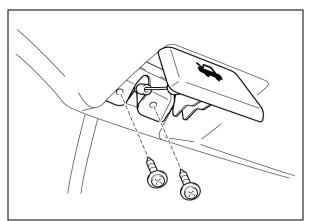


### 8. REINSTALL THE LOWER NO. 1 INSTRUMENT PANEL SUB-ASSEMBLY

- a) *If equipped* with a room temperature sensor, reconnect the hose and connector.
- b) Reconnect the power outlet switch and traction control switch *(if equipped)* connectors.
- c) Reinstall the instrument panel sub-assembly by engaging the 4 clips.
- d) Reinstall the screw and bolt.

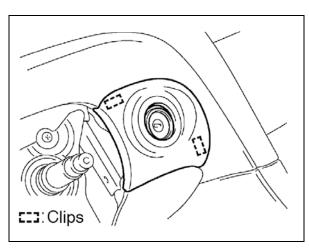
#### NOTE:

DO NOT damage the room temperature sensor when disconnecting the hose.



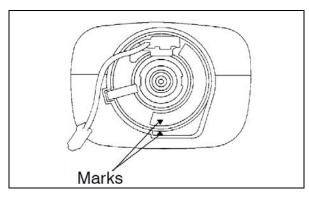
### 9. REINSTALL THE HOOD LOCK RELEASE LEVER

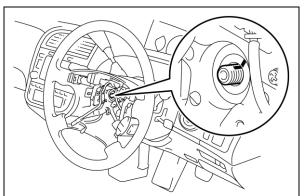
- a) Reinstall the hood lock cable to the release lever.
- b) Reinstall the hood lock release lever with the 2 screws.



### 10. REINSTALL THE LOWER INSTRUMENT FINISH PANEL ASSEMBLY

a) Reinstall the finish panel assembly by engaging the 2 clips.







- a) Confirm the front wheels are in a straight-ahead position.
- b) Turn the spiral cable counterclockwise by hand until it becomes hard to turn.
- c) Then rotate the spiral cable clockwise about 2.5 turns to align the marks.

### NOTE:

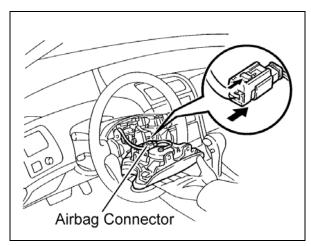
The spiral cable will rotate approximately 2.5 turns to the left or right from its center position.

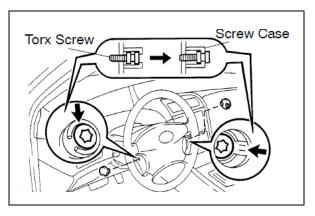
### 12. REINSTALL THE STEERING WHEEL

- a) Utilizing the matchmarks, reinstall the steering wheel to the main shaft assembly.
- b) Reinstall the steering wheel nut and torque to spec.

Torque: 50 N·m (510 kgf·cm, 37 ft·lbf)

c) Reconnect the connector.





### 13. REINSTALL THE STEERING WHEEL PAD (AIRBAG)

- a) Reconnect the horn and airbag connector.
- b) Reinstall the wheel pad (airbag) to the steering wheel.

#### NOTE:

- Never use airbag parts from another vehicle. Always use NEW parts when replacement is required.
- If the wheel pad (airbag) was been dropped, has cracks, dents or other defects on the case or connector replace it with a NEW one.
- When installing the wheel pad (airbag), make sure the wires are not pinched between or interfere with surrounding parts.
- c) Reinstall the 2 Torx<sup>®</sup> screws and torque to spec.

Torque: 8.8 N·m (90 kgf·cm, 78 in·lbf)

- d) Reinstall the left steering wheel lower covers No. 2 by engaging the claw.
- Reinstall the right steering wheel lower cover No. 2 or cruise control switch cover (if equipped) by engaging the claw.

### 14. RECONNECT THE NEGATIVE BATTERY CABLE

- a) Reconnect the negative battery cable.
- b) Set the radio station presets and the clock.

#### 15. INSPECT THE FOLLOWING

- Airbag Warning Light Operation
  - a) With the ignition ON, confirm the warning light turns on and turns off approximately 6 seconds later.

#### NOTE:

If the SRS light stays on after 6 seconds diagnose the system as outlined in the repair manual on TIS.

- Headlight and Turn Signal Switch
- Hood Lock Release Lever
- Horn
- Key Interlock Operation
  - a) Turn the ignition switch ON.
  - b) Move the shift lever out of P while depressing the brake pedal.
  - c) Check that the ignition switch cannot be turned OFF.
  - d) Move the shift lever to P and check that the key can be removed after the ignition switch is turned OFF.
- Shift Lever Position Operation (Column Shift Only)
  - a) Check that the indicator and shifter position match.
- Shift Lock Operation
  - a) With the shift lever in P and the ignition switch OFF, confirm the shift lever cannot be moved out of P.
  - b) Turn the ignition switch ON and confirm the shift lever can be moved out of P with the brake pedal applied.
- Steering Wheel is Centered
- Steering Wheel Lock Operation
  - a) With the key removed from the ignition switch, turn the steering wheel until it locks into place.
- Wiper / Washer Switch

### 16. STEERING ANGLE SENSOR ZERO POINT CALIBRATION (WITH VSC)

Follow the "Steering Angle Sensor Zero Point Calibration" outlined in the "Pre-Check: ABS With EBD & BA & TRAC & VSC System: Pre-check" section of the repair manual on TIS for the vehicle you are working on.

### 17. INSPECT FOR DTC

- CAMPAIGN COMPLETE -