### **COMPONENTS**

### **ILLUSTRATION**



С

### **ILLUSTRATION**



N\*m (kgf\*cm, ft.\*lbf) : Specified torque c

### **ILLUSTRATION**



### **ILLUSTRATION**



## **ILLUSTRATION**



Non-reusable part

### **REMOVAL**

1. DISABLE BRAKE CONTROL

2. REMOVE REAR WHEELS

3. REMOVE FRONT DOOR SCUFF PLATE LH

4. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH

5. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY

6. LOOSEN PARKING BRAKE CABLE

#### 7. DRAIN BRAKE FLUID

NOTICE:

If brake fluid leaks onto any painted surface, immediately wash it off.

8. REMOVE REAR FLOOR SIDE MEMBER COVER LH (w/ Floor Under Cover)



(a) Remove the nut, 2 bolts and rear floor side member cover LH.

9. REMOVE REAR FLOOR SIDE MEMBER COVER RH (w/ Floor Under Cover)



(b) Disengage the clip and remove the rear floor side member cover RH.

**10. REMOVE REAR SUSPENSION BRACE SUB-ASSEMBLY** 

#### (a) Remove the 4 bolts.



(b) Disengage the clip and remove the rear suspension brace sub-assembly.

11. DISCONNECT REAR SPEED SENSOR WIRE (for LH Side)

12. DISCONNECT REAR SPEED SENSOR WIRE (for RH Side)

HINT:

Perform the same procedure as for the LH side.

13. SEPARATE REAR SPEED SENSOR WIRE (for LH Side)

14. SEPARATE REAR SPEED SENSOR WIRE (for RH Side)

HINT:

Perform the same procedure as for the LH side.

15. DISCONNECT NO. 3 PARKING BRAKE CABLE ASSEMBLY

16. DISCONNECT NO. 2 PARKING BRAKE CABLE ASSEMBLY

HINT:

Perform the same procedure as for the No. 3 parking brake cable assembly.

17. SEPARATE NO. 3 PARKING BRAKE CABLE ASSEMBLY

(a) Remove the bolt and separate the No. 3 parking brake cable assembly.



#### 18. SEPARATE NO. 2 PARKING BRAKE CABLE ASSEMBLY

#### HINT:

Perform the same procedure as for the No. 3 parking brake cable assembly.

#### 19. SEPARATE REAR BRAKE TUBE FLEXIBLE HOSE

(a) Using a union nut wrench, disconnect the 2 brake lines while holding the rear brake tube flexible hose with a wrench.



#### Text in Illustration

*1	LH Side	*2	RH Side

#### NOTICE:

- Do not bend or damage the brake line.
- Do not allow any foreign matter such as dirt or dust to enter the brake line from the connecting points.

#### (b) for LH Side

(1) Remove the bolt and separate the rear brake tube flexible hose from the rear axle beam assembly.

(c) for RH Side

(1) Remove the clip and separate the rear brake tube flexible hose from the rear axle beam assembly.

#### 20. REMOVE REAR DISC BRAKE CALIPER ASSEMBLY LH



(a) Using a union nut wrench, disconnect the brake line while holding the rear flexible hose LH with a wrench.

- Do not bend or damage the brake line.
- Do not allow any foreign matter such as dirt or dust to enter the brake line from the connecting points.



(b) Remove the clip and separate the rear flexible hose LH.



(c) Remove the 2 bolts and rear disc brake caliper assembly LH with rear flexible hose LH.

С

#### 21. REMOVE REAR DISC BRAKE CALIPER ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

22. REMOVE REAR DISC (for LH Side)

23. REMOVE REAR DISC (for RH Side)

HINT:

Perform the same procedure as for the LH side.

#### 24. REMOVE REAR NO. 4 BRAKE TUBE



(a) Remove the nut and rear No. 4 brake tube from the rear axle beam assembly.

25. REMOVE REAR NO. 3 BRAKE TUBE

HINT:

Perform the same procedure as for the rear No. 4 brake tube.

26. REMOVE REAR AXLE HUB AND BEARING ASSEMBLY LH

27. REMOVE REAR AXLE HUB AND BEARING ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

28. SEPARATE REAR WHEEL HOUSE LINER LH (w/ Wheel House Liner)

29. SEPARATE REAR WHEEL HOUSE LINER RH (w/ Wheel House Liner)

HINT:

Perform the same procedure as for the LH side.

30. SEPARATE REAR HEIGHT CONTROL SENSOR SUB-ASSEMBLY RH (w/ Height Control Sensor)

31. REMOVE REAR COIL SPRING LH

32. REMOVE REAR COIL SPRING RH

HINT:

Perform the same procedure as for the LH side.

33. REMOVE REAR UPPER COIL SPRING INSULATOR LH

34. REMOVE REAR UPPER COIL SPRING INSULATOR RH

#### 35. REMOVE REAR LOWER COIL SPRING INSULATOR LH

### 36. REMOVE REAR LOWER COIL SPRING INSULATOR RH

#### 37. REMOVE REAR AXLE BEAM ASSEMBLY

(a) Support the rear axle beam assembly with a jack using 2 wooden blocks and 2 attachments or equivalent tools to replicate standard vehicle height conditions as shown in the illustration.



#### Text in Illustration

*1	Jack	*2	Wooden Block
*3	Attachment	-	-

#### NOTICE:

Make sure to secure the rear axle beam assembly to prevent it from dropping.

(b) Remove the 2 bolts (A) and 2 nuts while holding the 2 nuts and separate the rear axle beam assembly from the rear shock absorber assemblies LH and RH.

#### NOTICE:

Since the stopper nuts are used, turn the bolts.

(c) Remove the 2 bolts (B) and rear axle beam assembly.

#### 38. REMOVE REAR AXLE CARRIER BUSHING LH

(a) Put a matchmark on the rear axle beam assembly so that the mark aligns with the arrow mark on the rear axle carrier bushing LH. (If the rear axle beam assembly is reused.)

### **Text in Illustration**





(b) Using a chisel and hammer, bend the 2 ribs on the rear axle carrier bushing LH.

### **Text in Illustration**

*1	Bend Portion
*2	Turn
*3	Hold



NOTICE:

When removing the rear axle carrier bushing, do not erase the matchmark on the rear axle beam assembly.

(c) Using SST, remove the rear axle carrier bushing LH from the rear axle beam assembly.

SST: 09710-26011

09710-05061

SST: 09950-40011

09951-04020

09952-04010

09953-04030

09954-04020

09955-04051

09957-04010

09958-04011

SST: 09950-60010

09951-00530

NOTICE:

Apply grease to the threads and tip of the SST center bolt before use.

39. REMOVE REAR AXLE CARRIER BUSHING RH

HINT:

Perform the same procedure as for the LH side.

### INSTALLATION

#### 1. INSTALL REAR AXLE CARRIER BUSHING LH

(a) Align the arrow mark on a new rear axle carrier bushing LH with the matchmark on the rear axle beam assembly and temporarily install the rear axle carrier bushing LH to the rear axle beam assembly. (If the rear axle beam assembly is reused.)

### **Text in Illustration**

\*1 Matchmark

NOTICE:

Be sure to install the rear axle carrier bushing in the same direction as it was before removal.

The rear axle carrier bushing has to be installed in a specific direction.

(b) Temporarily install the new rear axle carrier bushing LH as shown in the illustration.

### **Text in Illustration**

*1	Mark
*2	Upper Side of the Vehicle
*3	Front of the Vehicle

NOTICE:

Be sure to install the rear axle carrier bushing in the same direction as it was before removal.

The rear axle carrier bushing has to be installed in a specific direction.

(c) Using SST, install the rear axle carrier bushing LH to the rear axle beam assembly.

### **Text in Illustration**

*1	Turn
*2	Hold

SST: 09710-04101

SST: 09950-40011







- 53-04030 54-04020 55-04051 57-04010 58-04011 5 09950-60010 51-00620 Do not damage the rubber portion when installing the rear axle carrier hushing
- Apply grease to the threads and tip of the SST center bolt before use.

#### 2. INSTALL REAR AXLE CARRIER BUSHING RH

#### HINT:

Perform the same procedure as for the LH side.

#### 3. TEMPORARILY TIGHTEN REAR AXLE BEAM ASSEMBLY

(a) Slowly jack up the rear axle beam assembly with a jack using 2 wooden blocks and 2 attachments or equivalent tools and temporarily install the rear axle beam assembly to the body with the 2 bolts (B).



Text in Illustration

*1	Jack	*3	Attachment
*2	Wooden Block	-	-

NOTICE:

Make sure to secure the rear axle beam assembly to prevent it from dropping.

(b) Temporarily tighten the rear axle beam assembly to the rear shock absorber assemblies LH and RH with the 2 bolts (A) and 2 nuts.

NOTICE:

Since the stopper nuts are used, turn the bolts.

HINT:

Insert the bolts with the threaded end facing the outside of the vehicle.

4. INSTALL REAR UPPER COIL SPRING INSULATOR LH

5. INSTALL REAR UPPER COIL SPRING INSULATOR RH

HINT:

Perform the same procedure as for the LH side.

6. INSTALL REAR LOWER COIL SPRING INSULATOR LH

7. INSTALL REAR LOWER COIL SPRING INSULATOR RH

8. INSTALL REAR COIL SPRING LH

9. INSTALL REAR COIL SPRING RH

HINT:

Perform the same procedure as for the LH side.

10. INSTALL REAR HEIGHT CONTROL SENSOR SUB-ASSEMBLY RH (w/ Height Control Sensor)

11. INSTALL REAR AXLE HUB AND BEARING ASSEMBLY LH

12. INSTALL REAR AXLE HUB AND BEARING ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

13. INSTALL REAR NO. 4 BRAKE TUBE2010 Toyota Prius



(a) Install the rear No. 4 brake tube to the rear axle beam assembly with the nut.

Torque: 8.5 N·m (87 kgf·cm, 75in·lbf)

#### 14. INSTALL REAR NO. 3 BRAKE TUBE

HINT:

Perform the same procedure as for the rear No. 4 brake tube.

#### 15. CONNECT REAR BRAKE TUBE FLEXIBLE HOSE

(a) for LH Side



#### Text in Illustration

*1	LH Side	*2	RH Side

(1) Install the rear brake tube flexible hose with the bolt.

#### Torque: 19 N·m (194 kgf·cm, 14ft·lbf)

(b) for RH Side

(1) Install the rear brake tube flexible hose with a new clip.

#### NOTICE:

Install the clip as far as it will go.

(c) Using a union nut wrench, connect the 2 brake lines to the rear brake tube flexible hose.

#### Torque: 15 N·m (155 kgf·cm, 11ft·lbf)

NOTICE:

- Do not bend or damage the brake line.
- Do not allow any foreign matter such as dirt and dust to enter the brake line from the connecting points.
- Use the formula to calculate special torque values for situations where the union nut wrench is combined with a torque wrench

16. INSTALL REAR DISC (for LH Side)

17. INSTALL REAR DISC (for RH Side)

HINT:

C

Perform the same procedure as for the LH side.

#### 18. INSTALL REAR DISC BRAKE CALIPER ASSEMBLY LH



(a) Install the rear disc brake caliper assembly LH with rear flexible hose LH with the 2 bolts.

Torque: 57 N·m (585 kgf·cm, 42ft·lbf)



(b) Connect the rear flexible hose LH to the rear axle beam assembly with a new clip.

NOTICE:

Install the clip as far as it will go.

(c) Using a union nut wrench, connect the brake line to the rear flexible hose LH while holding the rear flexible hose LH with a wrench.

Torque: 15 N·m (155 kgf·cm, 11ft·lbf)

- Do not bend or damage the brake line.
- Do not allow any foreign matter such as dirt and dust to enter the brake



line from the connecting points.

• Use the formula to calculate special torque values for situations where the union nut wrench is combined with a torque wrench .

19. INSTALL REAR DISC BRAKE CALIPER ASSEMBLY RH

HINT:

Perform the same procedure as for the LH side.

20. INSTALL NO. 3 PARKING BRAKE CABLE ASSEMBLY



(a) Install the No. 3 parking brake cable assembly to the rear axle beam assembly with the bolt.

Torque: 6.0 N·m (61 kgf·cm, 53in·lbf)

P

21. INSTALL NO. 2 PARKING BRAKE CABLE ASSEMBLY

HINT:

Perform the same procedure as for the No. 3 parking brake cable assembly.

22. CONNECT NO. 3 PARKING BRAKE CABLE ASSEMBLY

23. CONNECT NO. 2 PARKING BRAKE CABLE ASSEMBLY

HINT:

Perform the same procedure as for the LH side.

24. INSTALL REAR SPEED SENSOR WIRE (for LH Side)

25. INSTALL REAR SPEED SENSOR WIRE (for RH Side)

#### HINT:

Perform the same procedure as for the LH side. 2010 Toyota Prius 26. CONNECT REAR SPEED SENSOR WIRE (for LH Side)

27. CONNECT REAR SPEED SENSOR WIRE (for RH Side)

#### HINT:

Perform the same procedure as for the LH side.

28. INSTALL REAR SUSPENSION BRACE SUB-ASSEMBLY

(a) Install the rear suspension brace sub-assembly with the 4 bolts and clip.



Torque: 54 N·m (551 kgf·cm, 40ft·lbf)

#### 29. INSTALL REAR FLOOR SIDE MEMBER COVER LH (w/ Floor Under Cover)



(a) Install the rear floor side member cover LH with the nut and 2 bolts.

#### 30. INSTALL REAR FLOOR SIDE MEMBER COVER RH (w/ Floor Under Cover)

(a) Engage the clip to temporarily install the rear floor side member cover RH.



(b) Install the rear floor side member cover RH with the 3 bolts.

31. ADJUST PARKING BRAKE

INFO

32. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY

33. INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH

34. INSTALL FRONT DOOR SCUFF PLATE LH

#### 35. BLEED BRAKE LINE

36. PERFORM INITIALIZATION AND CALIBRATION OF LINEAR SOLENOID VALVE

HINT:

If the brake control has been disabled, make sure to perform initialization and calibration of the linear solenoid valve week.

**37. INSTALL REAR WHEELS** 

Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)

38. STABILIZE SUSPENSION

39. FULLY TIGHTEN REAR AXLE BEAM ASSEMBLY

40. INSTALL REAR WHEEL HOUSE LINER LH (w/ Wheel House Liner)

41. INSTALL REAR WHEEL HOUSE LINER RH (w/ Wheel House Liner)

HINT:

Perform the same procedure as for the LH side.

42. INSPECT REAR WHEEL ALIGNMENT

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INFO
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#### 43. PLACE FRONT WHEELS FACING STRAIGHT AHEAD

#### 44. PERFORM YAW RATE AND ACCELERATION SENSOR CALIBRATION

INFO

#### 45. CHECK FOR SPEED SENSOR SIGNAL

INFO

#### 46. PERFORM INITIALIZATION (w/ Height Control Sensor)

#### NOTICE:

Some systems need to be initialized after the rear height control sensor sub-assembly RH is replaced

### REMOVAL

#### 1. DISABLE BRAKE CONTROL

(a) Wait at least 2 minutes after the power switch off.

#### NOTICE:

When the brake pedal is depressed or the door courtesy switch is turned on even if the power switch is off, the brake control system activates. Therefore do not depress the brake pedal or open/close the doors until the reservoir level switch connector is disconnected.



(b) Disconnect the reservoir level switch connector.

- (c) Connect the Techstream to the DLC3 and turn the power switch on (IG).
- (d) Turn the Techstream on and enter the following menu: Chassis / ABS/VSC/TRC / Active Test.
- (e) Select "ECB (Electronically Controlled Brake system) Control Invalid".
- (f) Depress the brake pedal 40 times or more to return the all fluid in the accumulator back to the reservoir.

#### NOTICE:

A drop in accumulator pressure may cause a buzzer to sound. This is not a malfunction, therefore continue with the operation.

- (g) Check that the brake pedal can not be further depressed.
- (h) Select "NEXT" to finish "ECB (Electronically Controlled Brake system) Invalid".
- (i) Turn the power switch off and turn the Techstream off.
- 2. REMOVE REAR NO. 2 FLOOR BOARD (for Separate Type)
- 3. REMOVE REAR DECK FLOOR BOX
- 4. REMOVE REAR NO. 3 FLOOR BOARD
- 5. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL



#### 6. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH



(b) Disengage the 2 clips and remove the cowl side trim sub-assembly LH.

#### 7. REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP LH



(a) Remove the front door opening trim weatherstrip LH.

#### 8. REMOVE FRONT PILLAR GARNISH LH

(a) Pull the upper part of the garnish toward the inside of the cabin and disengage the 2 clips.

- (b) Disconnect the connector and remove the upper instrument panel finish panel sub-assembly.
- 11. REMOVE RADIO RECEIVER WITH BRACKET (w/o Navigation System)
- 12. REMOVE NAVIGATION RECEIVER WITH BRACKET (w/ Navigation System)
- 13. REMOVE FRONT DOOR SCUFF PLATE LH
- 14. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH
- 15. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY



(a) Remove the screw <C>.



(b) Disengage the 6 claws and clip as shown in the illustration.



- (c) Disengage the claw and 2 guides and disconnect the hood lock control cable.
- (d) Disconnect each connector and clamp, and remove the lower instrument panel finish panel assembly.

### REMOVAL

#### NOTICE:

When the brake pedal is first depressed after replacing the brake pads or pushing back the disc brake piston, DTC C1214 may be output. As there is no malfunction, clear the DTC.

#### HINT:

- Use the same procedure for the LH side and RH side.
- The following procedure is for the LH side.
- 1. DISABLE BRAKE CONTROL
- 2. REMOVE REAR WHEEL
- 3. DRAIN BRAKE FLUID

#### NOTICE:

If brake fluid leaks onto any painted surface, immediately wash it off.

4. REMOVE FRONT DOOR SCUFF PLATE LH

5. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH

- 6. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY
- 7. LOOSEN PARKING BRAKE CABLE

(a) Completely release the parking brake pedal.



(b) Loosen the lock nut and adjusting nut to completely release the parking brake cable.

### **Text in Illustration**

*1	Lock Nut
*2	Adjusting Nut

8. DISCONNECT NO. 3 PARKING BRAKE CABLE ASSEMBLY



(a) Separate the No. 3 parking brake cable assembly from the rear disc brake cylinder assembly.



(b) Separate the No. 3 parking brake cable assembly from the rear disc brake cylinder assembly.

### **Text in Illustration**

- \*1 No. 3 Parking Brake Cable Assembly
- \*2 Clip

\*3 Offset Wrench (14 mm)

HINT:

Insert an offset wrench (14 mm) at the base of the No. 3 parking brake cable assembly as shown in the illustration to disengage the clip. Pull out the No. 3 parking brake cable assembly from the rear disc brake cylinder assembly.

#### 9. SEPARATE REAR FLEXIBLE HOSE



(a) Remove the union bolt and gasket, and separate the rear flexible hose from the rear disc brake cylinder assembly.

### INSTALLATION

#### 1. INSTALL LOWER STEERING WHEEL BOSS COVER



(a) Engage the 2 pins and 4 claws to install the lower steering wheel boss cover to the steering wheel sub-assembly.

- 2. INSTALL CRUISE CONTROL SWITCH WIRE (w/ Cruise Control System)
- 3. INSTALL CRUISE CONTROL MAIN SWITCH (w/ Cruise Control System)
- 4. INSTALL STEERING PAD SWITCH ASSEMBLY
- 5. INSTALL STEERING SHAKE DAMPER



(a) Install the steering shake damper to the steering wheel assembly with the 2 screws.

Torque: 2.4 N·m (25 kgf·cm, 21in·lbf)

- 6. ALIGN FRONT WHEELS FACING STRAIGHT AHEAD
- 7. ADJUST SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY
- 8. INSTALL STEERING WHEEL ASSEMBLY

(a) Align the matchmarks on the steering wheel assembly and steering

С

### **COMPONENTS**

### **ILLUSTRATION**



### REMOVAL

- 1. REMOVE REAR WHEELS
- 2. DISCONNECT REAR SPEED SENSOR WIRE (for LH Side)\_\_\_\_\_
- 3. DISCONNECT REAR SPEED SENSOR WIRE (for RH Side)

#### HINT:

Perform the same procedure as the LH side.

4. SEPARATE REAR SPEED SENSOR WIRE (for LH Side)



(a) Remove the nut and separate the 2 clamps and rear speed sensor wire.

#### 5. SEPARATE REAR SPEED SENSOR WIRE (for RH Side)

HINT:

Perform the same procedure as the LH side.

#### 6. SEPARATE REAR HEIGHT CONTROL SENSOR SUB-ASSEMBLY RH (w/ Height Control Sensor)



(a) Remove the bolt and separate the rear height control sensor subassembly RH from the rear axle beam assembly.

(b) Using a vinyl tape, secure the rear height control sensor sub-assembly RH as shown in the illustration.

### **Text in Illustration**

*1	Vinyl	Tape



#### 7. SEPARATE REAR WHEEL HOUSE LINER LH (w/ Wheel House Liner)



(a) Remove the clip and turn back the rear wheel house liner LH to separate the rear wheel house liner LH.

8. SEPARATE REAR WHEEL HOUSE LINER RH (w/ Wheel House Liner)

HINT:

Perform the same procedure as the LH side.

9. REMOVE REAR COIL SPRING LH

(a) Loosen the 2 bolts.

### **Text in Illustration**

*1	LH Side
*2	RH Side

NOTICE:

Do not remove the bolts.



(b) Support the spring seat of the rear axle beam assembly using 2 jacks and 2 wooden blocks.



C

Text in Illustration

*1	Jack	*2	Wooden Block

#### CAUTION:

Do not jack up the rear axle beam assembly too high as the vehicle may fall.

#### HINT:

Support the rear shock absorber at a position where it compresses by approximately 20 to 30 mm (0.787 to 1.18 in.).

(c) Remove the 2 bolts while holding the 2 nuts and separate the rear axle beam assembly from the rear shock absorber assemblies LH and RH.

#### NOTICE:

Since the stopper nuts are used, turn the bolts.



(d) Slowly lower the rear axle beam assembly using 2 jacks and 2 wooden blocks, and remove the rear coil spring LH.

NOTICE:

When moving the rear axle beam assembly beyond full rebound, make sure that the rear axle beam assembly is not out of position for more than 10 minutes.

(e) Slowly jack up the rear axle beam assembly using 2 jacks and 2 wooden blocks, and temporarily tighten the rear axle beam assembly to the rear shock absorber assemblies LH and RH with the 2 bolts and 2 nuts.



С

Text in Illustration

*1 Jack *2 Wooden Block		*1	Jack	*2	Wooden Block
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#### NOTICE:

Since the stopper nuts are used, turn the bolts.

#### 10. REMOVE REAR COIL SPRING RH

#### HINT:

Perform the same procedure as the LH side.

- 11. REMOVE REAR UPPER COIL SPRING INSULATOR LH
- 12. REMOVE REAR UPPER COIL SPRING INSULATOR RH
- 13. REMOVE REAR LOWER COIL SPRING INSULATOR LH
- 14. REMOVE REAR LOWER COIL SPRING INSULATOR RH

## **INSTALLATION**

#### 1. INSTALL REAR UPPER COIL SPRING INSULATOR LH

(a) Install the rear upper coil spring insulator LH to the rear coil spring LH.



### **Text in Illustration**

\*1 10 mm or less

NOTICE:

Install the rear upper coil spring insulator so that the dimension between the stopper and the upper end of the rear coil spring is 10 mm (0.394 in.) or less.

2. INSTALL REAR UPPER COIL SPRING INSULATOR RH

HINT:

Perform the same procedure as the LH side.

- 3. INSTALL REAR LOWER COIL SPRING INSULATOR LH
- 4. INSTALL REAR LOWER COIL SPRING INSULATOR RH
- 5. INSTALL REAR COIL SPRING LH

(a) Support the spring seat of the rear axle beam assembly using 2 jacks and 2 wooden blocks.



C

#### Text in Illustration

*1 Jack *2 Wooden Block
-------------------------

(b) Remove the 2 bolts while holding the 2 nuts and separate the rear axle beam assembly from the rear shock absorber assemblies LH and RH.

#### NOTICE:

Since the stopper nuts are used, turn the bolts.

(c) Slowly lower the rear axle beam assembly using 2 jacks and 2 wooden blocks.



(d) Set the rear coil spring LH to the rear axle beam assembly.

### **Text in Illustration**

*1	Identification Mark	
*2	30° or less	

#### NOTICE:

Set the rear coil spring so that the identification marks are positioned as shown in the illustration.

C

(e) Slowly jack up the rear axle beam assembly using 2 jacks and 2 wooden blocks and temporarily install the rear axle beam assembly and rear coil spring LH with the 2 bolts and 2 nuts.



C

#### Text in Illustration

*1	Jack	*2	Wooden Block
----	------	----	--------------

#### NOTICE:

Since the stopper nuts are used, turn the bolts.

HINT:

Insert the bolt with the threaded end facing the outside of the vehicle.

#### 6. INSTALL REAR COIL SPRING RH

HINT:

Perform the same procedure as the LH side.

7. INSTALL REAR HEIGHT CONTROL SENSOR SUB-ASSEMBLY RH (w/ Height Control Sensor)



(a) Install the rear height control sensor sub-assembly RH to the rear axle beam assembly with the bolt.

Torque: 8.0 N·m (82 kgf·cm, 71in·lbf)

#### 8. INSTALL REAR SPEED SENSOR WIRE (for LH Side)



(a) Install the rear speed sensor wire to the rear axle beam assembly with the nut and 2 clamps.

Torque: 8.5 N·m (87 kgf·cm, 75in·lbf)

NOTICE:

Do not twist the rear speed sensor wire when installing it.

9. INSTALL REAR SPEED SENSOR WIRE (for RH Side)

HINT:

Perform the same procedure as the LH side.

10. CONNECT REAR SPEED SENSOR WIRE (for LH Side)

11. CONNECT REAR SPEED SENSOR WIRE (for RH Side)

HINT:

Perform the same procedure as the LH side.

12. INSTALL REAR WHEELS

#### Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)

13. STABILIZE SUSPENSION

#### 14. FULLY TIGHTEN REAR AXLE BEAM ASSEMBLY



(a) Fully tighten the 2 bolts.

### **Text in Illustration**

*1	LH Side
*2	RH Side



#### Torque: 135 N·m (1377 kgf·cm, 100ft·lbf)

NOTICE:

The final torque must be applied under the standard vehicle height conditions.



(b) Fully tighten the 2 bolts.

### **Text in Illustration**

*1	LH Side
*2	RH Side

#### Torque: 90 N·m (918 kgf·cm, 66ft·lbf)

- Since the stopper nut are used, turn the bolts.
- The final torque must be applied under the standard vehicle height conditions.

#### NOTICE:

Since the stopper nuts are used, turn the bolts.

HINT:

Insert the bolt with the threaded end facing the outside of the vehicle.

#### 6. INSTALL REAR COIL SPRING RH

HINT:

Perform the same procedure as the LH side.

7. INSTALL REAR HEIGHT CONTROL SENSOR SUB-ASSEMBLY RH (w/ Height Control Sensor)



(a) Install the rear height control sensor sub-assembly RH to the rear axle beam assembly with the bolt.

Torque: 8.0 N·m (82 kgf·cm, 71in·lbf)

#### 8. INSTALL REAR SPEED SENSOR WIRE (for LH Side)



(a) Install the rear speed sensor wire to the rear axle beam assembly with the nut and 2 clamps.

Torque: 8.5 N·m (87 kgf·cm, 75in·lbf)

NOTICE:

Do not twist the rear speed sensor wire when installing it.

9. INSTALL REAR SPEED SENSOR WIRE (for RH Side)

HINT:

Perform the same procedure as the LH side.

10. CONNECT REAR SPEED SENSOR WIRE (for LH Side)

11. CONNECT REAR SPEED SENSOR WIRE (for RH Side)

### INSTALLATION

HINT:

- If the sensor rotor needs to be replaced, replace it together with the rear axle hub and bearing assembly.
- The rear speed sensor is a component of the rear axle hub and bearing assembly. If the sensor malfunctions, replace the rear axle hub and bearing assembly.

#### 1. INSTALL REAR AXLE HUB AND BEARING ASSEMBLY

(a) Install the rear axle hub and bearing assembly

HINT:

The rear speed sensor is a component of the rear axle hub and bearing assembly. If the sensor malfunctions, replace the rear axle hub and bearing assembly.

2. INSPECT REAR AXLE HUB BEARING LOOSENESS

- 3. INSPECT REAR AXLE HUB RUNOUT
- 4. INSTALL REAR DISC
- 5. INSTALL REAR DISC BRAKE CALIPER ASSEMBLY
- 6. CONNECT NO. 3 PARKING BRAKE CABLE ASSEMBLY
- 7. CONNECT REAR SPEED SENSOR WIRE



(a) Connect the rear speed sensor wire connector to the rear speed sensor.

8. ADJUST PARKING BRAKE LEVER TRAVEL

9. INSPECT REAR DISC BRAKE CYLINDER OPERATION LEVER AND STOPPER CLEARANCE

10. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY

11. INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH

12. INSTALL FRONT DOOR SCUFF PLATE LH

### ADJUSTMENT

#### 1. INSPECT PARKING BRAKE PEDAL TRAVEL

- (a) Fully depress the parking brake pedal to engage the parking brake.
- (b) Depress the pedal again to disengage the parking brake.



(c) Slowly depress the parking brake pedal using the specified force, and count the number of clicks.

Parking brake pedal travel:

8 to 11 notches at 300 N (31 kgf, 67.5 lbf)

If the parking brake pedal travel is not as specified, adjust the parking brake pedal travel.

P

#### 2. ADJUST PARKING BRAKE PEDAL TRAVEL

- (a) Remove the lower instrument panel finish panel assembly
- (b) Completely release the parking brake pedal.



(c) Loosen the lock nut and the adjusting nut to completely release the parking brake cable.

### **Text in Illustration**

4	*1	Lock Nut
	*2	Adjusting Nut

(d) Turn the adjusting nut until the parking brake pedal travel is corrected to be within the specified range.

Parking brake pedal travel:

8 to 11 notches at 300 N (31 kgf, 67.5 lbf)

(e) Using a wrench or an equivalent tool, hold the adjusting nut and tighten the lock nut.

### **Text in Illustration**

\*1 Lock Nut



#### 20. INSTALL NO. 1 INSTRUMENT PANEL REGISTER



(a) Engage the 4 claws to install the No. 1 instrument panel register.

#### 21. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY

- (a) Connect each connector.
- (b) Engage the clamp.



(c) Engage the 2 guides and claw to connect the hood lock control cable.

(d) Engage the 6 claws and clip.





(e) Install the lower instrument panel finish panel assembly with the screw <C>.

- 22. INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH
- 23. INSTALL FRONT DOOR SCUFF PLATE LH
- 24. INSTALL NAVIGATION RECEIVER WITH BRACKET (w/ Navigation System)
- 25. INSTALL RADIO RECEIVER WITH BRACKET (w/o Navigation System)
- 26. INSTALL UPPER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY



(a) Connect the connector.

(b) Engage the 3 claws to install the upper instrument panel finish panel sub-assembly.

#### 27. INSTALL INSTRUMENT CLUSTER FINISH PANEL GARNISH

#### 45. INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH



(b) Install the cowl side trim board LH with the clip.

#### 46. INSTALL FRONT DOOR SCUFF PLATE LH



(a) Engage the 10 claws to install the front door scuff plate LH.

47. INSTALL CENTER PILLAR GARNISH RH

HINT:

Use the same procedure described for the LH side.

48. INSTALL CENTER PILLAR LOWER GARNISH RH

HINT:

Use the same procedure described for the LH side.

49. CONNECT FRONT SEAT OUTER BELT ASSEMBLY RH

#### HINT:

Use the same procedure described for the LH side.

### BLEEDING

#### CAUTION:

The Techstream must be used for air bleeding. If not used, the air bleeding will be incomplete, which is hazardous and may lead to an accident.

#### NOTICE:

- Perform air bleeding with park (P) selected and the parking brake applied.
- As brake fluid may overflow when bleeding, do not place the fluid can on the reservoir filler opening.
- Perform air bleeding while maintaining the brake fluid level between the MIN/MAX level on the brake fluid reservoir.
- Air bleeding will be difficult if the following occurs:
  - a. The brake actuator hose (the hose between the brake booster pump and brake fluid reservoir) is lowered into the fluid and air enters the hose.
  - b. During the air bleeding procedure, air enters the brake booster pump while operating the pump motor.
- While performing air bleeding, the accumulator pressure drop may cause a buzzer to sound. As there is no problem, continue with the operation.
- During air bleeding, DTCs for pressure sensor malfunctions, etc. may be stored. After air bleeding and if instructed in the procedures, clear the DTCs.
- Release the parking brake while the linear valve offset calibration procedure.
- Do not allow brake fluid to adhere to any painted surface such as the vehicle body. If brake fluid leaks onto any painted surface, immediately clean it off.
- When bleeding air, select the suitable procedure according to the table below.

Replaced/Installed Item	Work Procedure
Flexible hose (front/rear)	Pland broke line
Disc brake cylinder assembly (front/rear)	Dieeu ofake fille
Brake booster pump assembly	Bleed brake system
Brake booster with master cylinder assembly	
Brake master cylinder reservoir assembly	

#### 1. BLEED BRAKE LINE

#### (a) Remove the center cowl top ventilator cover.



(1) Slide the hood to cowl top seal and disengage the claw.

(2) Disengage the 2 claws and 3 guides, and remove the center cowl top ventilator cover.

(b) Bleed brake line.



(1) Remove the brake master cylinder reservoir filler cap assembly.

(2) Add brake fluid into the reservoir between MAX and MIN level on the brake fluid reservoir.

Brake fluid:

- SAE J1703 or FMVSS No. 116 DOT3
- (3) Connect the Techstream to the DLC3 and turn the power switch on (IG).

(4) Turn the Techstream on and enter the following menus: Chassis / ABS/VSC/TRC / Air Bleeding.

(5) Select the "Usual air bleeding" on the Techstream display, and bleed air from the brake fluid following the instructions on the Techstream.

(6) After air bleeding, tighten each bleeder plug.

front bleeder plug - Torque: 8.3 N·m (85 kgf·cm, 73in·lbf)

rear bleeder plug - Torque: 11 N·m (112 kgf·cm, 8ft·lbf)

- (7) Clear the DTCs
- (8) Turn the Techstream off and turn the power switch off.
- (c) Inspect for brake fluid leaks.
- (d) Install the brake master cylinder reservoir filler cap.
- (e) Install the center cowl top ventilator cover.

(1) Engage the 2 claws and 3 guides to install the center cowl top ventilator cover.



(2) Slide the hood to cowl top seal to engage the claw.

#### 2. BLEED BRAKE SYSTEM

- (a) Remove the outer cowl top panel sub-assembly .
- (b) Bleed the brake system.



(1) Wait at least 2 minutes with the power switch off, and disconnect the reservoir level switch connector.

#### NOTICE:

Do not depress the brake pedal or open/close the doors until the reservoir level switch connector is disconnected.

#### HINT:

This procedure is not required if the reservoir level switch connector has been disconnected.



(2) Remove the brake master cylinder reservoir filler cap assembly.

(3) Add brake fluid into the reservoir between MAX and MIN level on the brake fluid reservoir.

Brake fluid:

SAE J1703 or FMVSS No. 116 DOT3

(4) Connect the Techstream to the DLC3 and turn the power switch on (IG).

(5) Turn the Techstream on and enter the following menus: Chassis / ABS/VSC/TRC / Air Bleeding.

(6) Select the "ABS actuator has been replaced" on the Techstream display, and bleed air from the brake fluid following the instructions on the Techstream.

NOTICE:

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Before following the instructions on the Techstream to perform linear valve offset calibration, release the parking brake. When calibration is complete, immediately apply the parking brake.

(7) After air bleeding, tighten each bleeder plug.

front bleeder plug - Torque: 8.3 N·m (85 kgf·cm, 73in·lbf)

rear bleeder plug - Torque: 11 N·m (112 kgf·cm, 8ft·lbf)

stroke simulator bleeder plug - Torque: 8.5 N·m (87 kgf·cm, 75in·lbf)

HINT:

The stroke simulator bleeder plug is positioned as shown in the illustration.

### **Text in Illustration**

\*1 Stroke Simulator Bleeder Plug

(8) Clear the DTCs

(9) Turn the Techstream off and turn the power switch off.

(c) Install the brake master cylinder reservoir filler cap.

(d) Inspect for brake fluid leaks.

(e) Install the outer cowl top panel sub-assembly



### PRECAUTION

#### NOTICE:

- Since the brake lines are classified as critical safety related parts, be sure to disassemble and inspect the components if any brake fluid leaks are found. If any abnormality is found, replace the component with a new one.
- When removing brake system components, cover the brake line connections to prevent foreign matter such as dust or dirt from entering the lines.
- Do not allow brake fluid to adhere to any painted surface such as the vehicle body. If brake fluid leaks onto any painted surface, immediately clean it off.
- When installing a grommet to the body, ensure that the brake line passes through the center of the grommet.
- Do not damage or deform the brake lines when removing and installing them.
- When installing a brake line or flexible hose, ensure that they are free from twists or bends.
- Do not deform the bracket and the body when connecting a brake line and flexible hose.
- If the cap of a flexible hose does not match the groove on the bracket, twist the hose slightly to insert it.
- Flexible hoses must be free from shock absorber oil, grease, etc.
- When installing a brake line to a plastic clamp, ensure that the brake line is not loose or pinched.
- Do not reuse any clips or plastic clamps removed from a flexible hose.
- After installing a brake line or flexible hose, ensure that they do not interfere with any other components.
- When disconnecting and connecting a flexible hose and brake line:

Disconnecting:



#### Connecting:



Ρ

#### Text in Illustration

*1	Hold
*2	Turn

- a. Hold the flexible hose with a wrench and disconnect the brake line with a union nut wrench without deforming the line.
- b. Remove the clip.
- c. Install a new clip.
- d. Connect the brake line with a union nut wrench without deforming the line.

• When connecting a brake line and way:



#### Text in Illustration

*1	Hold
*2	Turn
*3	Way

- a. Support the way to prevent deformation of the brake line and connect the brake line to the way with a union nut wrench.
- b. Support the way to prevent deformation of the brake line and install the bolt to secure the way to the body.

## INITIALIZATION

#### 1. DESCRIPTION

(a) Perform initialization and calibration of the linear solenoid valve when the brake booster with master cylinder (skid control ECU, brake actuator or pressure sensor), brake pedal stroke sensor or brake pedal is replaced.

Follow the procedure to perform initialization.

HINT:

- If there is a problem with the auxiliary battery (12 V) voltage, initialization and calibration of the linear solenoid valve cannot be completed normally. Make sure to check the auxiliary battery voltage before performing initialization and calibration of the linear solenoid valve.
- If the actuator's temperature is high, initialization and calibration of the linear solenoid valve may not be completed normally. If so, wait until the temperature decreases and then perform initialization and calibration of the linear solenoid valve.
- If the power switch is turned off, the brake pedal is operated, parking brake is applied or vehicle speed signal is input while the linear solenoid valve offset learning is being performed, the learning will be cancelled.

Part to be Replaced	Necessary Operation
Brake booster with master cylinder	
(Skid control ECU, brake actuator or pressure sensor)	Initialization and calibration of the linear solenoid valve
<ul><li>Brake pedal stroke sensor</li><li>Brake pedal</li></ul>	<ol> <li>Clearing stored linear solenoid valve calibration data</li> <li>Initialization and calibration of the linear solenoid valve</li> </ol>

# 2. PERFORM INITIALIZATION AND CALIBRATION OF LINEAR SOLENOID VALVE (When Using the Techstream)

#### NOTICE:

If the brake control has been disabled, or the brake pedal stroke sensor or brake pedal has been replaced, it is necessary to perform linear solenoid valve learning.

If the brake booster with master cylinder has been replaced, or the brake booster pump or brake master cylinder reservoir has been replaced, linear solenoid valve learning will be automatically performed during the Bleed Brake System procedure

(a) Clear the stored linear solenoid valve calibration data.

- (1) Turn the power switch off.
- (2) Check that the steering wheel is centered.
- (3) Check that park (P) is selected.2010 Toyota Prius

(4) Connect the Techstream to the DLC3.

(5) Turn the power switch on (IG).

(6) Turn the Techstream on.

(7) Select the skid control ECU to clear the linear solenoid valve calibration data using the Techstream. Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / Reset Memory.

(8) Perform initialization and calibration of the linear solenoid valve.

(9) Perform the zero point calibration of yaw rate and acceleration sensor

(b) Perform initialization and calibration of the linear solenoid valve.

(1) Turn the power switch off.

- (2) Check that the steering wheel is centered.
- (3) Check that park (P) is selected.
- (4) Check that the parking brake is released.

#### NOTICE:

Linear valve offset learning cannot be started with the parking brake applied. If the parking brake is applied during offset learning, the learning process will be canceled and then restarted when the parking brake is released.

(5) Connect the Techstream to the DLC3.

(6) Turn the power switch on (IG) with the brake pedal released.

NOTICE:

- If the linear solenoid valve offset learning is performed without turning the power switch on (IG), the learning process may not be completed properly because of insufficient auxiliary battery voltage.
- When the linear solenoid valve offset learning is interrupted, or the learning process is performed with park (P) is not selected, DTC C1345 (Linear Solenoid Valve Offset Learning Undone) will be stored.

(7) Turn the Techstream on.

(8) Switch the skid control ECU to the Test Mode using the Techstream. Enter the following menus: Chassis / ABS/VSC/TRAC / Utility / ECB\* Utility / Linear Valve Offset.

\*: Electronically Controlled Brake System

(9) Leave the vehicle stationary without depressing the brake pedal for 1 or 2 minutes.

(10) Check that the interval between blinks of the brake warning light /



yellow (minor malfunction) changes from 1 second to 0.25 seconds.

- The time needed to complete initialization and calibration of the linear solenoid valve varies depending on auxiliary battery voltage.
- The brake warning light / yellow (minor malfunction) blinks at 1 second intervals during initialization and calibration of the linear solenoid valve and changes to the Test Mode display.
- The brake warning light / yellow (minor malfunction) blinks at 0.25 seconds intervals if the Test Mode is normal.

(11) Check that DTC C1345 (Linear Solenoid Valve Offset Learning Undone) which indicates trouble with stroke sensor zero point learning is not output when the brake warning light / yellow (minor malfunction) changes to the Test Mode display upon initialization and calibration of the linear solenoid valve completion.

(12) Enter the normal mode from the Test Mode following the Techstream directions.

#### HINT:

Refer to the Techstream operator's manual for further details.

3. PERFORM INITIALIZATION AND CALIBRATION OF LINEAR SOLENOID VALVE (When not Using the Techstream)

#### NOTICE:

If the brake control has been disabled, or the brake pedal stroke sensor or brake pedal has been replaced, it is necessary to perform linear solenoid valve learning.

If the brake booster with master cylinder has been replaced, or the brake booster pump or brake master cylinder reservoir has been replaced, linear solenoid valve learning will be automatically performed during the Bleed Brake System procedure

- (a) Clear the stored linear solenoid valve calibration data.
- (1) Turn the power switch off.
- (2) Check that the steering wheel is centered.
- (3) Check that park (P) is selected.
- (4) Check that the parking brake is released.

#### NOTICE:

Linear valve offset learning cannot be started with the parking brake applied. If the parking brake is applied during offset learning, the learning process will be canceled and then restarted when the parking brake is released.

(5) Turn the power switch on (IG) with the brake pedal released.



(7) Check that no codes other than ABS code 42, VSC code 45 and electronically controlled brake system code 48, 66, or 95 are stored in the diagnostic system.

Trouble Code Blinking Pattern (Example Code 42):



HINT:

The ABS warning, brake warning / yellow (minor malfunction) and slip indicator lights do not indicate a normal system code.

- (8) Remove SST from the terminals of the DLC3.
- (9) Perform initialization and calibration of the linear solenoid valve.
- (10) Perform the zero point calibration of yaw rate and acceleration sensor
- (b) Perform initialization and calibration of the linear solenoid valve.
- (1) Turn the power switch off.

(2) Check that the steering wheel is centered.

(3) Check that park (P) is selected.



(5) Turn the power switch on (IG) with the brake pedal released.

#### NOTICE:

- If the linear solenoid valve offset learning is performed without turning the power switch on (IG), the learning process may not be completed properly because of insufficient auxiliary battery voltage.
- When the linear solenoid valve offset learning is interrupted, or the learning process is performed with park (P) is not selected, DTC 66 (Linear Solenoid Valve Offset Learning Undone) will be stored.
- (6) Leave the vehicle stationary without depressing the brake pedal for 1 or 2 minutes.



(7) Check that the interval between blinks of the brake warning light / yellow (minor malfunction) changes from 1 second to 0.25 seconds.

- The time needed to complete initialization and calibration of the linear solenoid valve varies depending on the auxiliary battery voltage.
- The brake warning light / yellow (minor malfunction) blinks at 1 second intervals during initialization and calibration of the linear solenoid valve and changes to the Test Mode display.
- The brake warning light / yellow (minor malfunction) blinks at 0.25 seconds intervals if Test Mode is normal.

(8) Check that DTC 66 (Linear Solenoid Valve Offset Learning Undone) which indicates trouble with stroke sensor zero point learning is not output when the brake warning light / yellow (minor malfunction) changes to the Test Mode display upon initialization and calibration of the linear solenoid valve completion.

(9) Turn the power switch off and disconnect SST from the DLC3.



#### 4. INSTALL REAR NO. 1 SHOCK ABSORBER CUSHION WASHER



(a) Apply a few drops of adhesive to the threads of a new nut.

### **Text in Illustration**

*1	Upper Side
*2	Lower Side

Adhesive:

Toyota genuine adhesive 1324, three bond 1324 or equivalent

C

(b) Install the rear No. 1 shock absorber cushion washer.

#### NOTICE:

Be sure to install the rear No. 1 shock absorber cushion washer in the correct direction.



(c) Using a union nut wrench, fully tighten the lock nut while holding the rod of the rear shock absorber assembly with a hexagon socket wrench.

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

- Securely insert the hexagon socket wrench to the rear shock absorber rod to prevent damage to the rear shock absorber assembly when tightening the nut.
- Use the formula to calculate special torque values for situations

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